B. O'Bryen

Access DB# _____

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: P Spivack Examiner #: 70460 Date: 3/26/03
Art Unit: 1614 Phone Number 30 8-4703 Serial Number: 10/002526
Mail Box and Bldg/Room Location: 2D01 Results Format Preferred (circle): PAPER DISK E-MAIL

If mor than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

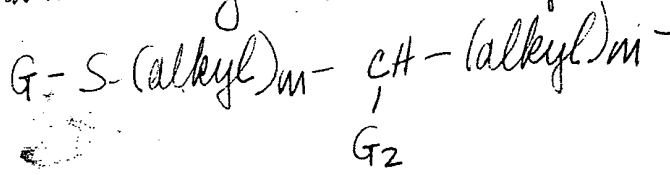
Title of Invention: Tx Radiation Exposure

Inventors (please provide full names): Frederick Hausheer - Please include inventor's search.

Earliest Priority Filing Date: 10/26/01

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search methods of treating radiation exposure comprising administering a compound of mesna, mesnal, mesna 1,2,15,19,23,24



Point of Contact:
Barb O'Bryen
Technical Information Specialist
STIC CM1 6A05 308-4291

9,10,11,17

1, n = 0-5, but, if either = 0, then G_2 must be H

G_1 = H, alkyl, methionine, cysteine, cystine, -S-(alkyl)$_m$- 

G_1 = $SO_3^- M^+$, $PO_3^{2-} M_2^{2+}$, $PO_2S^{2-} M_2^{2+}$

M = H or an alkali metal ion

G_2 = H, OH, SH, but, if G = H, then G_2 is not SH Thanks

****

STAFF USE ONLY

Searcher: BOB
Searcher Phone #: _____
Searcher Location: _____
Date Searcher Picked Up: _____
Date Completed: 3-31-03
Searcher Prep & Review Time: 100
Clerical Prep Time: _____
Online Time: 60

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) 5
Bibliographic _____
Litigation _____
Fulltext _____
Patent Family _____
Other _____

Vendors and cost where applicable

STN 732
Dialog _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet _____
Other (specify) _____

PTO-1590 (8-01)

BioTech-Chem Library
Search Results
Feedback Form (Optional)

Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the BioTech-Chem searcher* who conducted the search *or contact*:

Mary Hale, Supervisor, 308-4258
CM-1 Room 1E01

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* *(Example: 1610)*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

  Types of relevant prior art found:
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)
- *Relevant prior art **not found**:*
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms at the **Circulation Desk CM-1,** or send to Mary Hale, **CM1-1E01 or mary.hale@uspto.gov**

```
=> fil reg; d stat que 123
FILE 'REGISTRY' ENTERED AT 14:30:49 ON 31 MAR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   30 MAR 2003  HIGHEST RN 500991-80-0
DICTIONARY FILE UPDATES:  30 MAR 2003  HIGHEST RN 500991-80-0

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

L15                 STR
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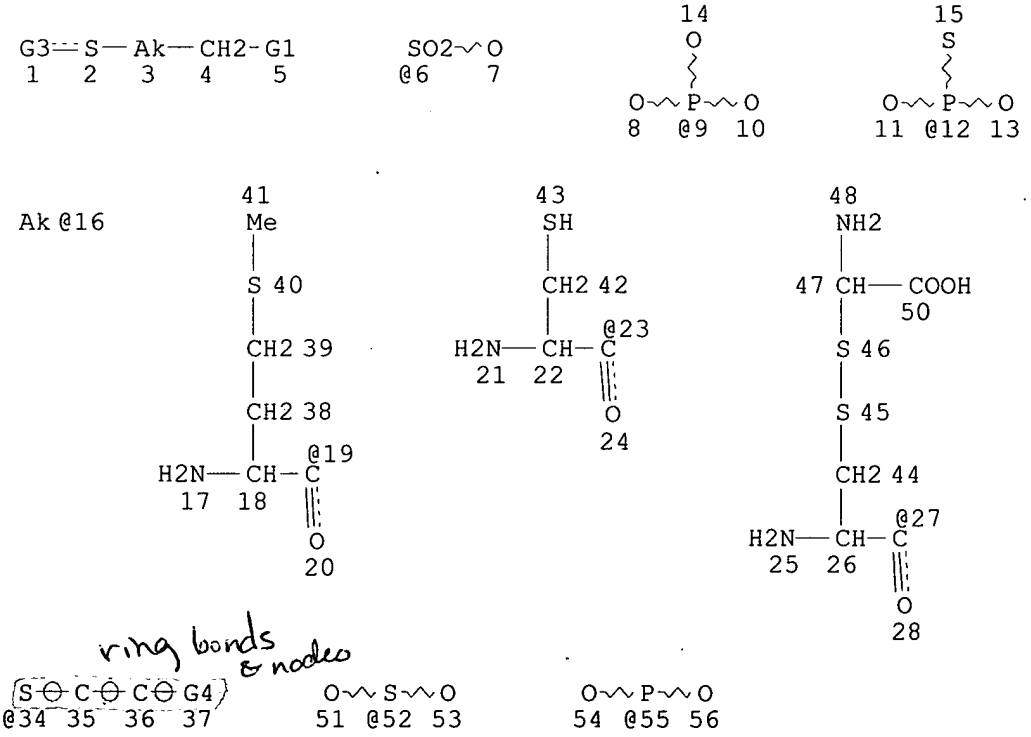


Searched for any of the following 4 structures

ring bonds & nodes

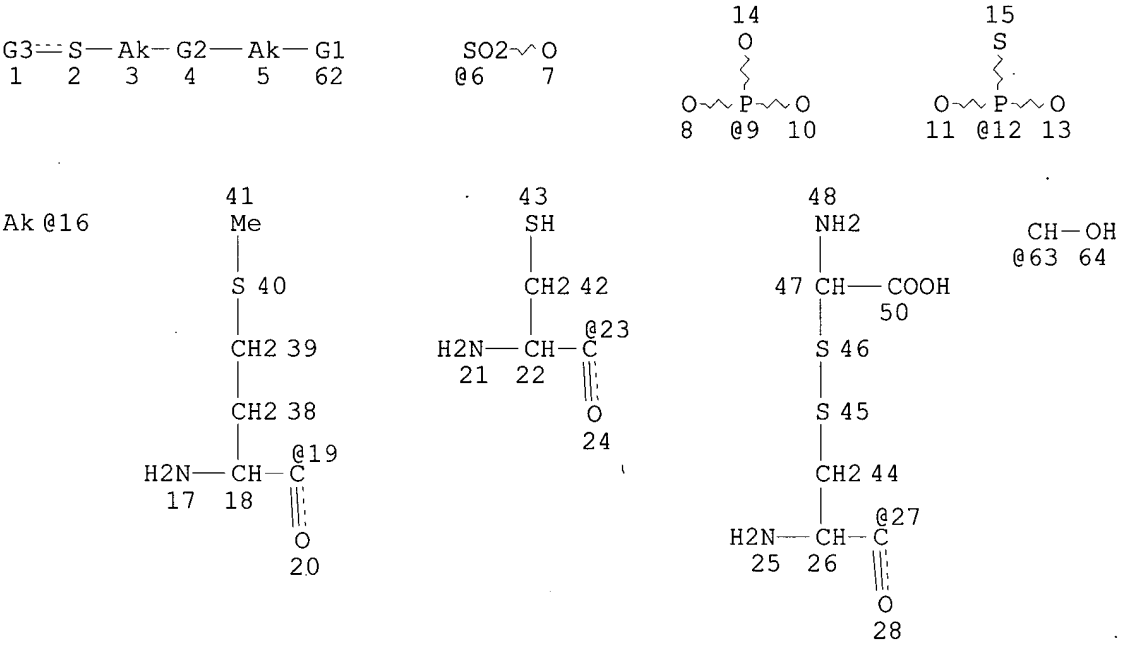
Page 1-A

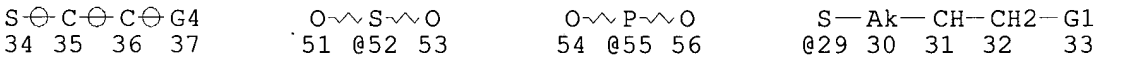

```
Page 2-A
VAR G1=6/9/12
VAR G3=H/16/19/23/27/34/29/58
VAR G4=52/55
```

NODE ATTRIBUTES:
NSPEC IS R AT 34
NSPEC IS R AT 35
NSPEC IS R AT 36
NSPEC IS R AT 52
NSPEC IS R AT 55
CONNECT IS E2 RC AT 3
CONNECT IS E1 RC AT 16
CONNECT IS E2 RC AT 30
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

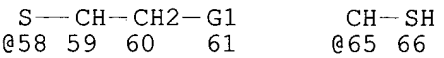
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 59

STEREO ATTRIBUTES: NONE
L17 STR





Page 1-A

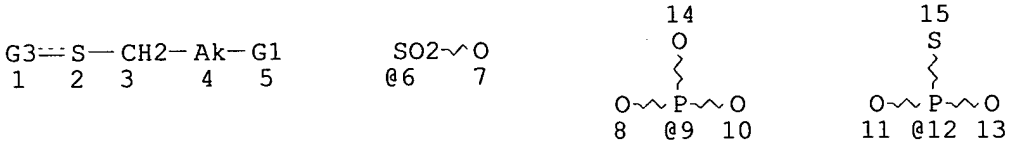


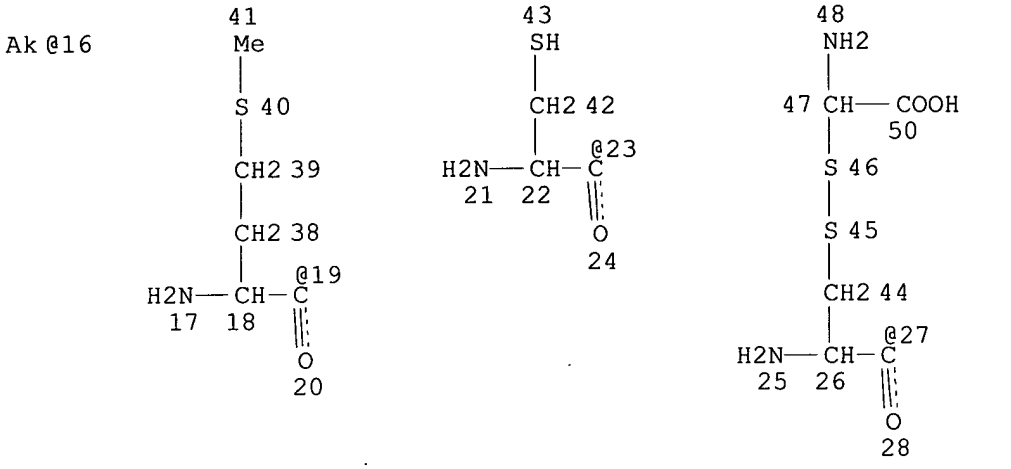
Page 2-A
VAR G1=6/9/12
VAR G2=CH2/63/65
VAR G3=H/16/19/23/27/34/29/58
VAR G4=52/55
NODE ATTRIBUTES:
NSPEC IS R AT 34
NSPEC IS R AT 35
NSPEC IS R AT 36
NSPEC IS R AT 52
NSPEC IS R AT 55
CONNECT IS E2 RC AT 3

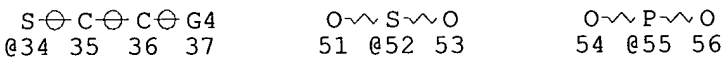
CONNECT IS E2 RC AT 5
CONNECT IS E1 RC AT 16
CONNECT IS E2 RC AT 30
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 64

STEREO ATTRIBUTES: NONE
L18 STR







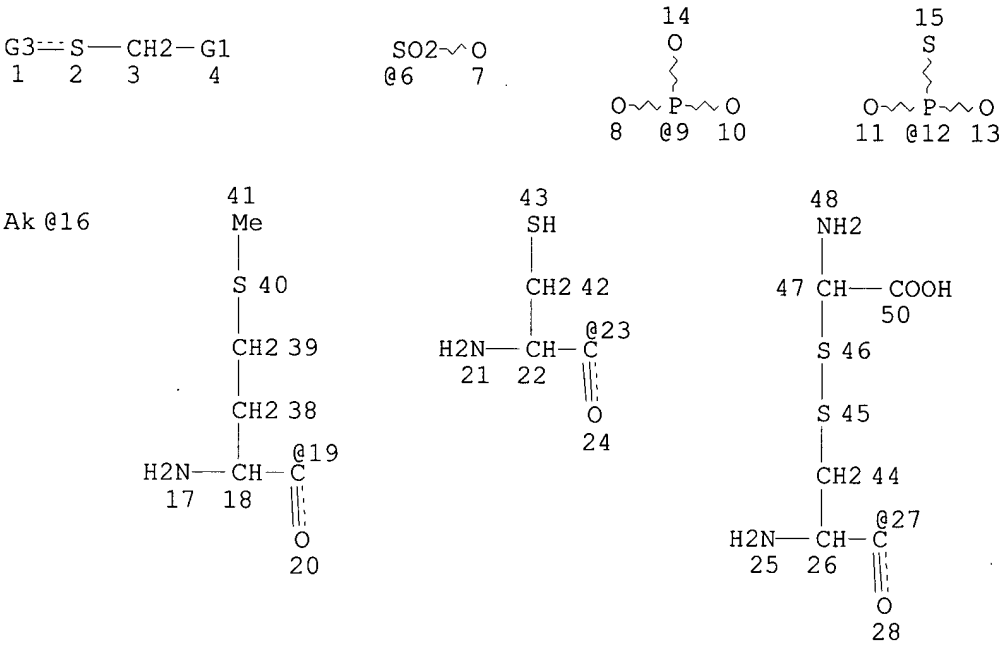
Page 1-A

Page 2-A
VAR G1=6/9/12
VAR G3=H/16/19/23/27/34/29/58
VAR G4=52/55
NODE ATTRIBUTES:
NSPEC IS R AT 34
NSPEC IS R AT 35
NSPEC IS R AT 36
NSPEC IS R AT 52
NSPEC IS R AT 55
CONNECT IS E2 RC AT 4
CONNECT IS E1 RC AT 16
CONNECT IS E2 RC AT 30
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 59

STEREO ATTRIBUTES: NONE
L19 STR

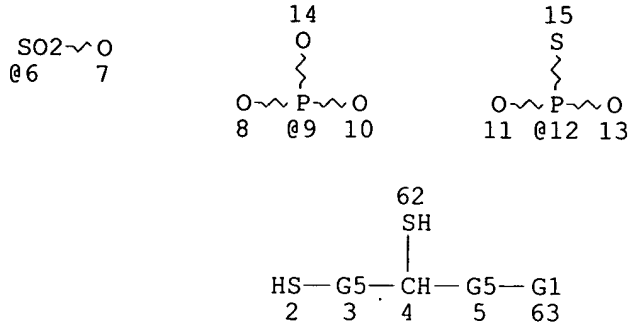


Page 1-A

Page 2-A
VAR G1=6/9/12
VAR G3=H/16/19/23/27/34/29/58
VAR G4=52/55
NODE ATTRIBUTES:
NSPEC IS R AT 34
NSPEC IS R AT 35
NSPEC IS R AT 36
NSPEC IS R AT 52
NSPEC IS R AT 55
CONNECT IS E1 RC AT 16
CONNECT IS E2 RC AT 30
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 58

STEREO ATTRIBUTES: NONE
L20 STR



this structure "NOT"-ed out of answer set

G = H, G2 = SH

VAR G1=6/9/12
REP G5=(0-5) C
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE
L22 1236 SEA FILE=REGISTRY SSS FUL (L15 OR (L17 OR L18 OR L19)) NOT L20
L23 1234 SEA FILE=REGISTRY ABB=ON L22/COMPLETE

=> fil capl; d que nos 125; d que nos 128
FILE 'CAPLUS' ENTERED AT 14:30:58 ON 31 MAR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

inventor search

FILE COVERS 1907 - 31 Mar 2003 VOL 138 ISS 14
FILE LAST UPDATED: 30 Mar 2003 (20030330/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

L1 4585 SEA FILE=HCAPLUS ABB=ON RADIATION/CT(L)(EXPOS? OR ILLNES? OR SICKNESS OR INJUR? OR DAMAG?)
L2 4029 SEA FILE=HCAPLUS ABB=ON RADIATION DAMAGE/CT
L3 1746 SEA FILE=HCAPLUS ABB=ON RADIATION SICKNESS/CT
L4 58122 SEA FILE=HCAPLUS ABB=ON (NUCLEAR OR RADIATION)(2A)(ACCIDENT? OR EXPOS? OR ILLNES? OR SICKNESS OR INJUR? OR DAMAG?)
L5 888 SEA FILE=HCAPLUS ABB=ON RADIATION(1A)INDUC?(3A)(ABNORMAL? OR LEUKEMI? OR CANCER? OR NEOPLAS? OR DERMATITIS)

```
L6          355 SEA FILE=HCAPLUS ABB=ON  OSTEORADIONECRO? OR RADIATION(2A)(PNEU
                MONI? OR FIBROSIS)
L7           30 SEA FILE=HCAPLUS ABB=ON  RADIODERMATITIS
L24          79 SEA FILE=HCAPLUS ABB=ON  HAUSHEER F?/AU
L25           0 SEA FILE=HCAPLUS ABB=ON  (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR
                L7) AND L24

L15             STR
L17             STR
L18             STR
L19             STR
L20             STR
L22        1236 SEA FILE=REGISTRY SSS FUL (L15 OR (L17 OR L18 OR L19)) NOT L20
L23        1234 SEA FILE=REGISTRY ABB=ON  L22/COMPLETE
L24          79 SEA FILE=HCAPLUS ABB=ON  HAUSHEER F?/AU
L26        2288 SEA FILE=HCAPLUS ABB=ON  L23
L27          17 SEA FILE=HCAPLUS ABB=ON  L26 AND L24
L28          16 SEA FILE=HCAPLUS ABB=ON  L27 AND PHARMAC?/SC,SX
```

inventor + structure search answer set + pharmacology

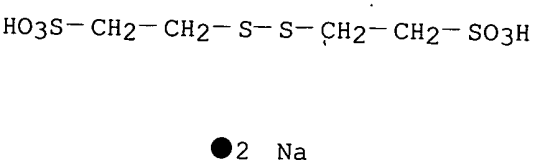
```
=> d ibib abs hitstr l28 1-16
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS' - CONTINUE? (Y)/N:y

L28  ANSWER 1 OF 16  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:        2002:339566  HCAPLUS
DOCUMENT NUMBER:         138:163038
TITLE:                   BNP7787, a novel protector against platinum-related
                         toxicities, does not affect the efficacy of cisplatin
                         or carboplatin in human tumor xenografts
AUTHOR(S):               Boven, E.; Verschraagen, M.; Hulscher, T. M.;
                         Erkelens, C. A. M.; Hausheer, F. H.; Pinedo,
                         H. M.; van der Vijgh, W. J. F.
CORPORATE SOURCE:        Department of Medical Oncology, Vrije Universiteit
                         Medical Centre, Amsterdam, 1081 HV, Neth.
SOURCE:                  European Journal of Cancer (2002), 38(8), 1148-1156
                         CODEN: EJCAEL; ISSN: 0959-8049
PUBLISHER:               Elsevier Science Ltd.
DOCUMENT TYPE:           Journal
LANGUAGE:                English
AB   BNP7787 (2',2'-dithio-bis-ethane sulfonate sodium), a water-sol.
     disulfide, is chem. and mechanistically different from other sulfur-contg.
     chemoprotective agents. Presently, BNP7787 is under investigation for its
     protective properties with regard to the side-effects of platinum compds.
     In this study, we evaluated BNP7787, Mesna and amifostine for their
     effects on the antitumor activity of platinum compds. Continuous exposure
     to BNP7787 did not affect the antiproliferative effects of cisplatin or
     carboplatin, but the efficacy of both compds. was reduced in the presence
     of Mesna in vitro in two human ovarian cancer cell lines. BNP7787 or
     amifostine combined with cisplatin or carboplatin given in std. schedules
     for the treatment of nude mice bearing well-established OVCAR-3 xenografts
     did not interfere with platinum-induced inhibition of tumor growth. Of
     interest, BNP7787 or amifostine co-administered with carboplatin was
     significantly more effective than carboplatin alone (P<0.01). In the
     presence of amifostine, doses of cisplatin and carboplatin could be safely
     increased by factors of 1.6 and 1.5, resp. Unlike in a previous study of
     BNP7787 in tumor-bearing rats, BNP7787 did not protect against addnl. wt.
     loss following treatment with higher doses of cisplatin in OVCAR-3-bearing
     mice. Pharmacokinetics of (mixed) disulfides including BNP7787 and
     extractable Mesna in deproteinized plasma revealed a rapid disappearance
```

of BNP7787 and an AUC5-60 value of Mesna 9-fold lower than that calcd. after an equiv. dose of Mesna by wt. We can conclude that BNP7787 does not interfere with the antitumor activity of platinum compds. in vitro and in vivo. Clin. trials are underway to evaluate the protection of normal tissues by BNP7787 when combined with cisplatin.

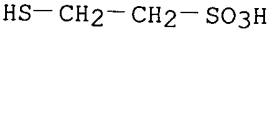
IT **16208-51-8**, BNP7787 **19767-45-4**, Mesna
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(BNP7787, a novel protector against platinum-related toxicities, does not affect the efficacy of cisplatin or carboplatin in human tumor xenografts)

RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

RN 19767-45-4 HCAPLUS
CN Ethanesulfonic acid, 2-mercapto-, monosodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 2 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:592249 HCAPLUS
DOCUMENT NUMBER: 135:147467
TITLE: Method of treating diabetic ophthalmopathy with thiol or reducible disulfide compounds
INVENTOR(S): **Hausheer, Frederick H.**; Parker, Aulma; Peddaiaghari, Seetharamulu
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6274622	B1	20010814	US 1999-427812	19991027

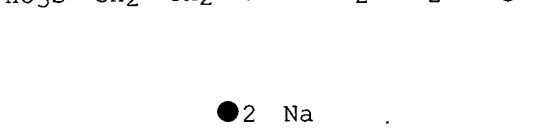
PRIORITY APPLN. INFO.: US 1999-427812 19991027
OTHER SOURCE(S): MARPAT 135:147467

AB This invention relates to a method of treating patients afflicted with diabetic ophthalmopathy. The method includes administering to a patient in need of treatment an effective amt. of a thiol or reducible disulfide compd. according to the formula set forth in the specification. The compds. are R1S-(alkyl)mCH(R3)(alkyl)n-R2 [R1 = H, lower alkyl, , , -S-(alkyl)m-CH(R5)-CH2R4; R2, R4 = SO3-M+, PO32-M22+, PO2S2-M22+; R3, R5 =

H, OH, sulfhydryl; m, n = 0-4 (if m or n = 0, R3 = H); M = H or alkali metal ion] or a pharmaceutically acceptable salt. Dimesna inhibited aldose reductase.

IT **16208-51-8**, Dimesna
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(aldose reductase inhibition by; diabetic ophthalmopathy treatment with thiol or reducible disulfide compds.)

RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



2 Na

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 3 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:464366 HCAPLUS
DOCUMENT NUMBER: 135:56072
TITLE: Method of treating diabetic angiopathy with thiols and reducible disulfide compounds
INVENTOR(S): **Hausheer, Frederick H.**; Parker, Aulma; Peddaiaghari, Seetharamulu
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

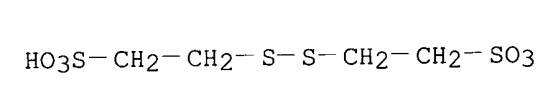
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6251881	B1	20010626	US 1999-422478	19991021

PRIORITY APPLN. INFO.: US 1999-422478 19991021
OTHER SOURCE(S): MARPAT 135:56072

AB This invention relates to a method of treating patients afflicted with diabetic angiopathy. The method includes administering to a patient in need of treatment an effective amt. of a thiol or reducible disulfide compd. according to the formula set forth in the specification.

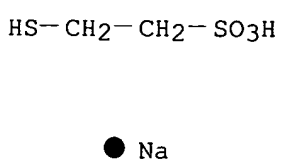
IT **16208-51-8**, Dimesna **19767-45-4**, Mesna
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(treatment of diabetic angiopathy with thiols and reducible disulfide compds.)

RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



2 Na

RN 19767-45-4 HCAPLUS
CN Ethanesulfonic acid, 2-mercapto-, monosodium salt (8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 4 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:874222 HCAPLUS
DOCUMENT NUMBER: 134:29133
TITLE: Preparation of mercaptans and disulfides having toxicity-reducing activity when administered with antineoplastic agents
INVENTOR(S): **Hausheer, Frederick H.**; Haridas, Kochat; Huang, Qiuli
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA
SOURCE: U.S., 4 pp., Cont.-in-part of U.S. Ser. No. 63,592, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6160167	A	20001212	US 1998-145384	19980901
WO 2000012469	A1	20000309	WO 1999-US19876	19990830
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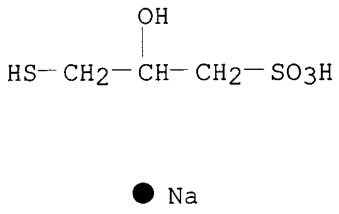
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9961324	A1	20000321	AU 1999-61324	19990830
EP 1109779	A1	20010627	EP 1999-948083	19990830
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

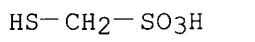
PRIORITY APPLN. INFO.: US 1998-63592 B2 19980421
US 1998-145384 A 19980901
WO 1999-US19876 W 19990830
OTHER SOURCE(S): MARPAT 134:29133
AB The title compds. R2R5CH(XR3)R4SSR4CH(OR3)R5R2 (R2 = sulfonate, phosphonate; R3 = H, lower alkyl; R4 = lower alkyl, direct bond; X = O, direct bond) which include a terminal sulfonate or phosphonate moiety, useful as toxicity-reducing agents when administered with many antineoplastic agents, are prepd. Thus, sodium mercaptomethylsulfonate was titrated with an aq. KI soln., the liq. lyophilized, the residue dissolved in water and heated to boiling, and the solvent removed to give NaO3SCH2SSCH2SO3Na.
IT **20055-98-5P 68928-43-8P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of mercaptans and disulfides having toxicity-reducing activity when administered with antineoplastic agents)

RN 20055-98-5 HCAPLUS
CN 1-Propanesulfonic acid, 2-hydroxy-3-mercapto-, monosodium salt (8CI, 9CI) (CA INDEX NAME)

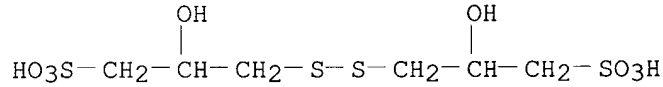


RN 68928-43-8 HCAPLUS
CN Methanesulfonic acid, mercapto-, monosodium salt (9CI) (CA INDEX NAME)



IT **16208-50-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of mercaptans and disulfides having toxicity-reducing activity when administered with antineoplastic agents)

RN 16208-50-7 HCAPLUS
CN 1-Propanesulfonic acid, 3,3'-dithiobis[2-hydroxy-, disodium salt (8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

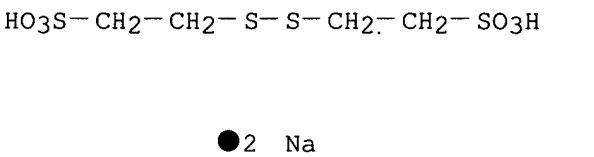
L28 ANSWER 5 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:547471 HCAPLUS
DOCUMENT NUMBER: 133:115149
TITLE: Method using a thiol or reducible disulfide for treating diabetic neuropathy
INVENTOR(S): **Hausheer, Frederick H.**; Parker, Aulma; Peddaiaghari, Seetharamulu
PATENT ASSIGNEE(S): BioNumerik Pharmaceuticals, Inc., USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

Searched by Barb O'Bryen, STIC 308-4291

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6100247	A	20000808	US 1999-422485	19991021

PRIORITY APPLN. INFO.: US 1999-422485 19991021
OTHER SOURCE(S): MARPAT 133:115149
AB A method is provided for treating patients afflicted with diabetic neuropathy. The method includes administering an effective amt. of a thiol or reducible disulfide compd., e.g. dimesna.
IT **16208-51-8**, Dimesna
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thiol or reducible disulfide for treating diabetic neuropathy)
RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:199097 HCAPLUS
DOCUMENT NUMBER: 132:217140
TITLE: Method using a thiol or reducible disulfide compd. for treating diabetic cardiomyopathy
INVENTOR(S): **Hausheer, Frederick H.**; Parker, Aulma; Peddaiahgari, Seetharamulu
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6043274	A	20000328	US 1999-422479	19991021

PRIORITY APPLN. INFO.: US 1999-422479 19991021
OTHER SOURCE(S): MARPAT 132:217140
AB A method is provided for treating patients afflicted with diabetic cardiomyopathy. The method includes administering an effective amt. of a thiol or reducible disulfide compd. such as dimesna.
IT **16208-51-8**, Dimesna
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thiol or reducible disulfide compd. for treating diabetic cardiomyopathy)
RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)

$HO_3S-CH_2-CH_2-S-S-CH_2-CH_2-SO_3H$

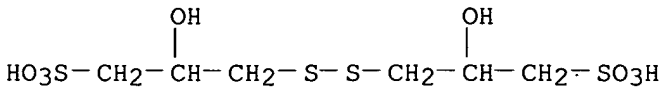
2 Na

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 7 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:161250 HCAPLUS
DOCUMENT NUMBER: 132:194113
TITLE: Preparation of (mercaptoalkyl)sulfonic acids and their disulfide and phosphonate analogs with antineoplastic agent toxicity-reducing activity
INVENTOR(S): **Hausheer, Frederick H.**; Haridas, Kochat; Huang, Qiuli
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

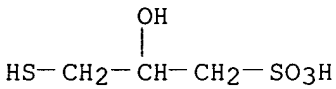
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000012469	A1	20000309	WO 1999-US19876	19990830
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6160167	A	20001212	US 1998-145384	19980901
AU 9961324	A1	20000321	AU 1999-61324	19990830
EP 1109779	A1	20010627	EP 1999-948083	19990830
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1998-145384 A 19980901
US 1998-63592 B2 19980421
WO 1999-US19876 W 19990830
OTHER SOURCE(S): CASREACT 132:194113; MARPAT 132:194113
AB The title compds. R1SR4CH(XR3)R5R2 [R1 = H lower alkyl, R4CH(XR3)R5R2; R2 = sulfonate, phosphonate; R3 = H, lower alkyl; R4, R5 = C1-4 alkylene, direct bond; X = O, S, direct bond when R1 is lower alkyl] (e.g., sodium 2-hydroxy-3-mercaptopropanesulfonate) are prepd. and have toxicity-reducing activity when administered with antineoplastic agents (no data).
IT **16208-50-7P 20055-98-5P 68928-43-8P**
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of (mercaptoalkyl)sulfonic acids and their disulfide and phosphonate analogs with antineoplastic agent toxicity-reducing activity)
RN 16208-50-7 HCAPLUS
CN 1-Propanesulfonic acid, 3,3'-dithiobis[2-hydroxy-, disodium salt (8CI, 9CI) (CA INDEX NAME)



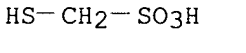
●2 Na

RN 20055-98-5 HCAPLUS
CN 1-Propanesulfonic acid, 2-hydroxy-3-mercapto-, monosodium salt (8CI, 9CI) (CA INDEX NAME)



● Na

RN 68928-43-8 HCAPLUS
CN Methanesulfonic acid, mercapto-, monosodium salt (9CI) (CA INDEX NAME)



Na

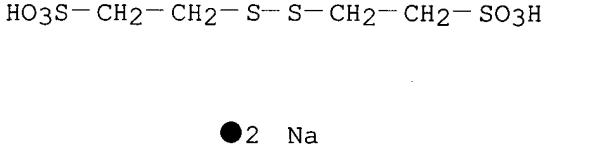
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 8 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:140603 HCAPLUS
DOCUMENT NUMBER: 132:146640
TITLE: Method of treating diabetic nephropathy with a thiol or disulfide compound
INVENTOR(S): **Hausheer, Frederick H.**; Parker, Aulma; Peddaiaghari, Seetharamulu
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6031006	A	20000229	US 1999-422486	19991021

PRIORITY APPLN. INFO.: US 1999-422486 19991021
OTHER SOURCE(S): MARPAT 132:146640
AB A method is disclosed for treating patients afflicted with diabetic nephropathy. The method includes administering to a patient in need of treatment an effective amt. of a thiol or reducible disulfide compd. Compds. of the invention include mesna, dimesna, and related compds.

IT **16208-51-8**, Dimesna
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thiol or disulfide compd. for treating diabetic nephropathy)
RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



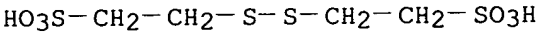
2 Na

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

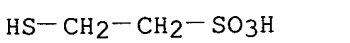
L28 ANSWER 9 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:113122 HCAPLUS
DOCUMENT NUMBER: 132:156859
TITLE: Formulations and methods of reducing toxicity of antineoplastic agents
INVENTOR(S): **Hausheer, Frederick H.**
PATENT ASSIGNEE(S): BioNumerik Pharmaceuticals, Inc., USA
SOURCE: U.S., 21 pp., Cont.-in-part of U.S. Ser. No. 225,957.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6025488	A	20000215	US 1999-295869	19990421
US 5789000	A	19980804	US 1994-338379	19941114
US 5902610	A	19990511	US 1995-553005	19951103
US 5919816	A	19990706	US 1997-954678	19971017
US 6040312	A	20000321	US 1999-225957	19990105

PRIORITY APPLN. INFO.: US 1994-338379 A2 19941114
US 1995-553005 A2 19951103
US 1997-954678 A3 19971017
US 1999-225957 A2 19990105
OTHER SOURCE(S): MARPAT 132:156859
AB Pharmaceutical formulations of compds. which are useful as protective agents when administered to patients also receiving antineoplastic drugs are provided. The invention also includes methods of reducing the toxicity of various antineoplastic agents by administering an effective amt. of the protective agent to a patient receiving one or more antineoplastic agents. The compds. useful as protective agents have either a sulfhydryl moiety or are reducible disulfides. Thus, 2,2'-dithio-bis-ethane sulfonate (I) was prepd. by oxidizing 2-mercapto ethane sulfonate in water with equimolar amt. of iodine. An injection soln. contained approx. 0.9 mg of cisplatin and 14.3 mg of I per mL.
IT **45127-11-5P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(formulations and methods of reducing toxicity of antineoplastic agents)
RN 45127-11-5 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis- (9CI) (CA INDEX NAME)



IT **3375-50-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(formulations and methods of reducing toxicity of antineoplastic agents)
RN 3375-50-6 HCAPLUS
CN Ethanesulfonic acid, 2-mercapto- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

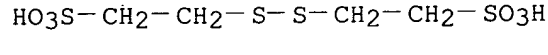


REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 10 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:779230 HCAPLUS
DOCUMENT NUMBER: 132:15650
TITLE: Method of treating adult respiratory syndrome
INVENTOR(S): **Hausheer, Frederick Herman**
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5998479	A	19991207	US 1999-246476	19990209

PRIORITY APPLN. INFO.: US 1999-246476 19990209
OTHER SOURCE(S): MARPAT 132:15650
AB Patients afflicted with Adult Respiratory Distress Syndrome (ARDS) are treated with an effective amt. of a thiol or reducible disulfide compd. Examples compds. are HSCH2CH2SO3Na and (NaO3SCH2CH2)2S2.
IT **16208-51-8**, Dimesna **19767-45-4**, Mesna
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(thiols and disulfides for treatment of adult respiratory syndrome)
RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



RN 19767-45-4 HCAPLUS
CN Ethanesulfonic acid, 2-mercapto-, monosodium salt (8CI, 9CI) (CA INDEX NAME)

$HS-CH_2-CH_2-SO_3H$

Na

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 11 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:426822 HCAPLUS
DOCUMENT NUMBER: 131:78446
TITLE: Formulations and methods of reducing toxicity of antineoplastic agents
INVENTOR(S): **Hausheer, Frederick H.**; Dodd, Thomas J.
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA
SOURCE: U.S., 22 pp., Cont.-in-part of U.S. Ser. No. 553,005.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5919816	A	19990706	US 1997-954678	19971017
US 5789000	A	19980804	US 1994-338379	19941114
US 5902610	A	19990511	US 1995-553005	19951103
CA 2304704	AA	19990429	CA 1998-2304704	19981016
WO 9920264	A1	19990429	WO 1998-US21814	19981016
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9910908	A1	19990510	AU 1999-10908	19981016
AU 750521	B2	20020718		
EP 1033981	A1	20000913	EP 1998-953570	19981016
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001520189	T2	20011030	JP 2000-516661	19981016
US 6040312	A	20000321	US 1999-225957	19990105
US 6040304	A	20000321	US 1999-225695	19990106
US 6040294	A	20000321	US 1999-226760	19990106
US 6043249	A	20000328	US 1999-226384	19990106
US 6046159	A	20000404	US 1999-225697	19990106
US 6046234	A	20000404	US 1999-225701	19990106
US 6048849	A	20000411	US 1999-225700	19990106
US 6057361	A	20000502	US 1999-225702	19990106
US 6066645	A	20000523	US 1999-225693	19990106
US 6025488	A	20000215	US 1999-295869	19990421

PRIORITY APPLN. INFO.:
US 1994-338379 A2 19941114
US 1995-553005 A2 19951103
US 1997-954678 A 19971017
WO 1998-US21814 W 19981016
US 1999-225957 A2 19990105

OTHER SOURCE(S): MARPAT 131:78446

AB This invention provides for pharmaceutical formulations of compds. which

are useful as protective agents when administered to patients also receiving antineoplastic drugs. The invention also includes methods of reducing the toxicity of various antineoplastic agents by administering an effective amt. of the protective agent to a patient receiving one or more antineoplastic agents. The compds. useful as protective agents have either a sulfhydryl moiety or are reducible disulfides. Cisplatin was added to an aq. soln. contg. 0.9 % NaCl, then 2,2'-dithio-bis-ethanesulfonate was added and the final pH was adjusted to 2-6 by adding HCl (99.9 %). The soln. was sterilized via filtration and stored in sterile injection vials wherein each vial contained .apprx.0.9 mg cisplatin and 14.3 mg of 2,2'-dithio-bis-ethane sulfonate per mL of injection soln.

IT **45127-11-5**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antineoplastic agent toxicity redn. by compds. with sulfhydryl or reducible disulfide groups)

RN 45127-11-5 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis- (9CI) (CA INDEX NAME)

$HO_3S-CH_2-CH_2-S-S-CH_2-CH_2-SO_3H$

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 12 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:316527 HCAPLUS
DOCUMENT NUMBER: 130:343013
TITLE: Formulations and methods for use of 2,2'-dithio-bis-ethanesulfonate
INVENTOR(S): **Hausheer, Frederick Herman**; Haridas, Kochat; Murali, Dhanabalan; Reddy, Dasharatha Gauravaram; Peddaiahgari, Seetharamulu
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA
SOURCE: U.S., 25 pp., Cont.-in-part of U.S. 5,789,000. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

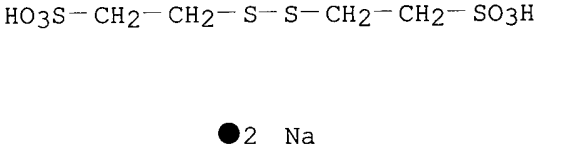
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5902610	A	19990511	US 1995-553005	19951103
US 5789000	A	19980804	US 1994-338379	19941114
CA 2202170	AA	19960523	CA 1995-2202170	19951114
CN 1165483	A	19971119	CN 1995-196231	19951114
US 5866615	A	19990202	US 1997-848361	19970430
US 5866169	A	19990202	US 1997-878244	19970618
US 5919816	A	19990706	US 1997-954678	19971017
US 6040312	A	20000321	US 1999-225957	19990105
US 6040304	A	20000321	US 1999-225695	19990106
US 6040294	A	20000321	US 1999-226760	19990106
US 6043249	A	20000328	US 1999-226384	19990106
US 6046159	A	20000404	US 1999-225697	19990106
US 6046234	A	20000404	US 1999-225701	19990106
US 6048849	A	20000411	US 1999-225700	19990106
US 6057361	A	20000502	US 1999-225702	19990106
US 6066645	A	20000523	US 1999-225693	19990106
US 6025488	A	20000215	US 1999-295869	19990421

PRIORITY APPLN. INFO.: US 1994-338379 A2 19941114
US 1995-553005 A3 19951103
US 1997-954678 A3 19971017
US 1999-225957 A2 19990105

AB This invention describes novel formulations contg. a water-sol. disulfide, 2,2'-dithio-bis-ethanesulfonate(I), with or without cisplatin present in the same formulation, wherein the parenteral or oral administration of I is used to reduce the risk or prevent or retard the development of cisplatin-induced nephrotoxicity, myelosuppression, and neurotoxicity, and wherein the parenteral or oral administration of I potentiates the antitumor activity of cisplatin when treating human patients with cancer. This invention also teaches novel formulations contg. I alone or in combination with cisplatin in lyophilized or dissolved in an aq. formulation which can be administered to patients with cancer who are being treated with cisplatin. The invention also teaches methods of prepg. the formulations and their use in preventing cisplatin-related toxicities and potentiation of cisplatin antitumor activity.

IT **16208-51-8**, Disodium 2,2'-dithio-bis-ethanesulfonate
122528-02-3 224173-10-8 224173-12-0
224173-13-1 224173-14-2 224177-72-4
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dithiodiethanesulfonates for prevention of cisplatin-induced toxicity and for potentiation of antitumor activity of cisplatin)

RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



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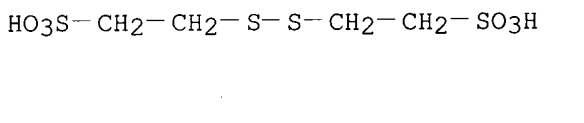
RN 122528-02-3 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, dipotassium salt (9CI) (CA INDEX NAME)



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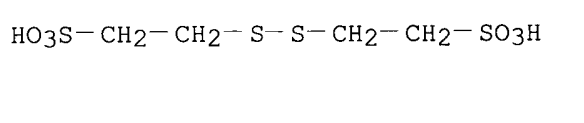
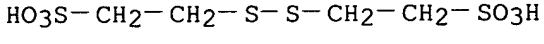
RN 224173-10-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, monosodium salt (9CI) (CA INDEX NAME)

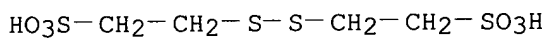


Na

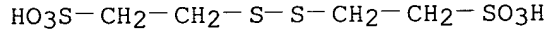
RN 224173-12-0 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, potassium sodium salt (9CI) (CA INDEX NAME)



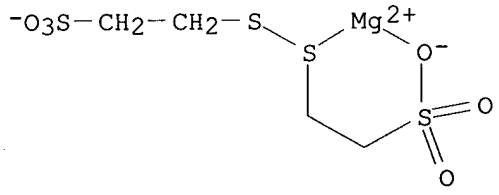
RN 224173-13-1 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, calcium salt (1:1) (9CI) (CA INDEX NAME)



RN 224173-14-2 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, monopotassium salt (9CI) (CA INDEX NAME)



RN 224177-72-4 HCAPLUS
CN Magnesium, [2-[(2-sulfoethyl)dithio-.kappa.S1]ethanesulfonato(2-)-.kappa.O]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 13 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:282085 HCAPLUS
DOCUMENT NUMBER: 130:316647
TITLE: Formulations and methods for reducing toxicity of antineoplastic agents
INVENTOR(S): **Hausheer, Frederick H.**; Dodd, Thomas J.
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 90 pp.

Searched by Barb O'Bryen, STIC 308-4291

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9920264	A1	19990429	WO 1998-US21814	19981016
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
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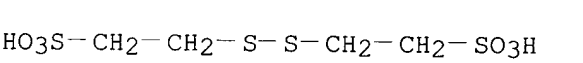
US 5919816	A	19990706	US 1997-954678	19971017
CA 2304704	AA	19990429	CA 1998-2304704	19981016
AU 9910908	A1	19990510	AU 1999-10908	19981016
AU 750521	B2	20020718		
EP 1033981	A1	20000913	EP 1998-953570	19981016
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001520189	T2	20011030	JP 2000-516661	19981016

PRIORITY APPLN. INFO.:
US 1997-954678 A 19971017
US 1994-338379 A2 19941114
US 1995-553005 A2 19951103
WO 1998-US21814 W 19981016

OTHER SOURCE(S): MARPAT 130:316647

AB Pharmaceutical formulations of compds. which are useful as protective agents when administered to patients also receiving antineoplastic drugs are disclosed. The invention also includes methods of reducing the toxicity of various antineoplastic agents by administering an effective amt. of the protective agent to a patient receiving one or more antineoplastic agents. The compds. useful as protective agents have either a sulfhydryl moiety or are reducible disulfides. Thus, 2,2'-dithio-bis-ethane sulfonate (I) was very stable at pH = 1.5 = 9.0. A sterile soln. contg. cisplatin 0.9, and I 14.3 mg was prepd.

IT **45127-11-5**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (formulations and methods for reducing toxicity of antineoplastic agents)
RN 45127-11-5 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis- (9CI) (CA INDEX NAME)

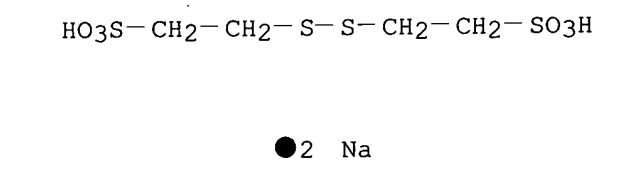


REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 14 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:702980 HCAPLUS
DOCUMENT NUMBER: 130:118880
TITLE: Modulation of platinum-induced toxicities and therapeutic index: mechanistic insights and first- and second-generation protecting agents
AUTHOR(S): **Hausheer, Frederick H.**; Kanter, Peter; Cao, Shousong; Haridas, Kochat; Seetharamulu, Peddaiahgari; Reddy, Dasharatha; Petluru, Pavankumar; Zhao, Min; Murali, Dhanabalan; Saxe, Jeffrey D.; Yao, Shije;

Searched by Barb O'Bryen, STIC 308-4291

Martinez, Noel; Zukowski, Alexander; Rustum, Youcef M.
CORPORATE SOURCE: BioNumerik Pharmaceuticals, Inc., San Antonio, TX, 78229, USA
SOURCE: Seminars in Oncology (1998), 25(5), 584-599
CODEN: SOLGAV; ISSN: 0093-7754
PUBLISHER: W. B. Saunders Co.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 56 refs. Platinum-type drugs have proven to be valuable in the treatment of a variety of solid tumors, beginning with the com. approval of cisplatin 18 yr ago. There are several clin. important toxicities commonly assocd. with the administration of these drugs. Despite the extensive use of cisplatin and carboplatin, the fundamental chem. transformations and mechanisms that underlie their antitumor and toxic effects have not been fully characterized. Several first-generation protective thiols have been clin. studied to reduce the toxicity of platinum-type drugs; while some of these agents appear to protect against certain toxicities, nearly all platinum-protecting drugs have their own intrinsic toxicities, which can be additive to the toxicity of platinum-type drugs. Tumor protection by platinum-protecting drugs is an addnl. untoward effect that is assocd. with certain types of agents and must be addressed with care. Recent advances in theor. and lab. methods and the use of supercomputers have extended our understanding of the possible major mechanisms underlying platinum drug antitumor activity and toxicity; we present strong evidence that there are two classes of chem. species of platinum drug. One class appears to predominantly account for the antitumor activity, and the other class of chem. species produces many of the toxic effects of platinum drugs. We have discovered a new nontoxic, second-generation platinum-protecting agent, known as BNP7787, which appears to selectively inactivate and eliminate toxic platinum species. BNP7787 has recently entered phase I clin. testing in cancer patients.
IT **16208-51-8**, BNP 7787
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(BNP7787, a second-generation agent, effective against antitumor platinum drug toxicity)
RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



$HO_3S-CH_2-CH_2-S-S-CH_2-CH_2-SO_3H$

●2 Na

REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 15 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:197403 HCAPLUS
DOCUMENT NUMBER: 128:252984
TITLE: Reducing toxic effects of carboplatin using dithioethers
INVENTOR(S): **Hausheer, Frederick Herman**; Haridas, Kochat; Reddy, Dasharatha Gauravaram; Seetharamulu, Peddaiahgari; Murali, Dhanabalan
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA; Lucas, Brian, Ronald; Hausheer, Frederick Herman; Haridas, Kochat; Reddy, Dasharatha Gauravaram; Seetharamulu, Peddaiahgari; Murali, Dhanabalan
SOURCE: PCT Int. Appl., 16 pp.

Searched by Barb O'Bryen, STIC 308-4291

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

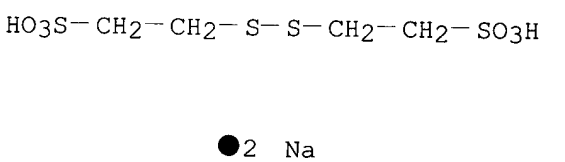
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9811898	A1	19980326	WO 1997-GB2582	19970923
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9743133	A1	19980414	AU 1997-43133	19970923
AU 712548	B2	19991111		
CN 1230887	A	19991006	CN 1997-198132	19970923
EP 957920	A1	19991124	EP 1997-941110	19970923
EP 957920	B1	20011219		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001500872	T2	20010123	JP 1998-514414	19970923
AT 210987	E	20020115	AT 1997-941110	19970923
ES 2170414	T3	20020801	ES 1997-941110	19970923
US 6037336	A	20000314	US 1999-269360	19990510

PRIORITY APPLN. INFO.: US 1996-26430P P 19960923
WO 1997-GB2582 W 19970923

AB To reduce the toxic effect of carboplatin, particularly myelosuppression and emesis, a dithioether R1(CH2)nSS(CH2)mR2 (R1, R2 = SO3H, PO3H2; m, n = 1-4), or a pharmaceutically acceptable salt thereof, preferably disodium 2,2'-dithiobis(ethane sulfonate) (dimesna), is administered in combination with carboplatin to a patient, at substantially the same time or sequentially, whereby the dithioether and the carboplatin become copresent in the blood of the patient. Compns. comprising carboplatin and the dithioether are included in the invention.

IT **16208-51-8**, Dimesna
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dithioethers for carboplatin toxicity redn.)

RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



$HO_3S-CH_2-CH_2-S-S-CH_2-CH_2-SO_3H$

●2 Na

L28 ANSWER 16 OF 16 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:444088 HCAPLUS
DOCUMENT NUMBER: 125:76337
TITLE: Antitumor combination of cisplatin with 2,2'-dithiobis(ethanesulfonate) (dimesna)
INVENTOR(S): **Hausheer, Frederick Herman**; Haridas, Kochat; Murali, Dhanabalan; Reddy, Dasharatha Gauravaram
PATENT ASSIGNEE(S): Bionumerik Pharmaceuticals, Inc., USA; Lucas, Brian

Searched by Barb O'Bryen, STIC 308-4291

Ronald
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9614852	A1	19960523	WO 1995-EP4490	19951114
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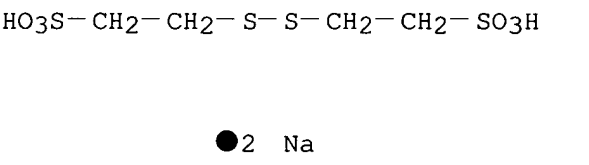
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5789000	A	19980804	US 1994-338379	19941114
CA 2202170	AA	19960523	CA 1995-2202170	19951114
AU 9641168	A1	19960606	AU 1996-41168	19951114
AU 706181	B2	19990610		
EP 792154	A1	19970903	EP 1995-939282	19951114
R: BE, CH, DE, FR, GB, IT, LI, SE				
CN 1165483	A	19971119	CN 1995-196231	19951114
JP 10509143	T2	19980908	JP 1995-515745	19951114

PRIORITY APPLN. INFO.: US 1994-338379 A 19941114
WO 1995-EP4490 W 19951114

AB Coadministration of cisplatin with a pharmaceutically acceptable form of dimesna reduces the nephrotoxicity and myelosuppression of cisplatin and potentiates its antitumor action. Preferably the cisplatin and dimesna are formulated as a compn., esp. a sterile injectable soln. contg. Cl-, H+, and Na+.

IT **16208-51-8**, Dimesna
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antitumor combination of cisplatin with dimesna)

RN 16208-51-8 HCAPLUS
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

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=> fil hcapl; d que nos 131; fil medl; d que nos 146
FILE 'HCAPLUS' ENTERED AT 14:31:41 ON 31 MAR 2003
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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search of method

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FILE COVERS 1907 - 31 Mar 2003  VOL 138 ISS 14
FILE LAST UPDATED: 30 Mar 2003  (20030330/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


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L2          4029 SEA FILE=HCAPLUS ABB=ON  RADIATION DAMAGE/CT
L3          1746 SEA FILE=HCAPLUS ABB=ON  RADIATION SICKNESS/CT
L4         58122 SEA FILE=HCAPLUS ABB=ON  (NUCLEAR OR RADIATION)(2A)(ACCIDENT?
                 OR EXPOS? OR ILLNES? OR SICKNESS OR INJUR? OR DAMAG?)
L5           888 SEA FILE=HCAPLUS ABB=ON  RADIATION(1A)INDUC?(3A)(ABNORMAL? OR
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L6           355 SEA FILE=HCAPLUS ABB=ON  OSTEORADIONECRO? OR RADIATION(2A)(PNEU
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L7            30 SEA FILE=HCAPLUS ABB=ON  RADIODERMATITIS
L15               STR
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L19               STR
L20               STR
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                 OR L6 OR L7) OR L30)


FILE 'MEDLINE' ENTERED AT 14:31:41 ON 31 MAR 2003

 FILE LAST UPDATED: 31 MAR 2003 (20030331/UP). FILE COVERS 1958 TO DATE.

 On June 9, 2002, MEDLINE was reloaded. See HELP RLOAD for details.

 MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the
 MeSH 2003 vocabulary. See http://www.nlm.nih.gov/mesh/summ2003.html
 for a description on changes.

 This file contains CAS Registry Numbers for easy and accurate
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L18             STR
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L23        1234 SEA FILE=REGISTRY ABB=ON  L22/COMPLETE
L32          14 SEA FILE=REGISTRY ABB=ON  L23 AND MEDLINE/LC
L41        2030 SEA FILE=MEDLINE ABB=ON  ACCIDENTS, RADIATION/CT
L42       35075 SEA FILE=MEDLINE ABB=ON  RADIATION INJURIES+NT/CT
L43         835 SEA FILE=MEDLINE ABB=ON  L32
L45        4897 SEA FILE=MEDLINE ABB=ON  RADIATION-PROTECTIVE AGENTS/CT
L46          16 SEA FILE=MEDLINE ABB=ON  (L41 OR L42 OR L45) AND L43
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=> fil cancer; d que nos 151; fil uspatf; d que nos 157; fil biosis; d que nos 162
FILE 'CANCERLIT' ENTERED AT 14:32:11 ON 31 MAR 2003

FILE COVERS 1963 TO 15 Nov 2002 (20021115/ED)

On July 28, 2002, CANCERLIT was reloaded.  See HELP RLOAD for details.

CANCERLIT thesauri in the /CN, /CT, and /MN fields incorporate the
MeSH 2002 vocabulary.  Enter HELP THESAURUS for details.

This file contains CAS Registry Numbers for easy and accurate substance
identification.
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L23        1234 SEA FILE=REGISTRY ABB=ON  L22/COMPLETE
L39           6 SEA FILE=REGISTRY ABB=ON  L23 AND CANCERLIT/LC
L47         559 SEA FILE=CANCERLIT ABB=ON  L39
L48        1011 SEA FILE=CANCERLIT ABB=ON  RADIATION-PROTECTIVE AGENTS/CT
L49       14954 SEA FILE=CANCERLIT ABB=ON  RADIATION INJURIES+NT/CT
L50         449 SEA FILE=CANCERLIT ABB=ON  ACCIDENTS, RADIATION/CT
L51          11 SEA FILE=CANCERLIT ABB=ON  L47 AND (L48 OR L49 OR L50)
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FILE 'USPATFULL' ENTERED AT 14:32:12 ON 31 MAR 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1971 TO PATENT PUBLICATION DATE: 27 Mar 2003 (20030327/PD)
FILE LAST UPDATED: 27 Mar 2003 (20030327/ED)
HIGHEST GRANTED PATENT NUMBER: US6539548
HIGHEST APPLICATION PUBLICATION NUMBER: US2003061649
CA INDEXING IS CURRENT THROUGH 27 Mar 2003 (20030327/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 27 Mar 2003 (20030327/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2003
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2003

>>>  USPAT2 is now available.  USPATFULL contains full text of the     <<<
>>>  original, i.e., the earliest published granted patents or         <<<
>>>  applications.  USPAT2 contains full text of the latest US         <<<
>>>  publications, starting in 2001, for the inventions covered in     <<<
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>>> USPATFULL. A USPATFULL record contains not only the original <<<
>>> published document but also a list of any subsequent <<<
>>> publications. The publication number, patent kind code, and <<<
>>> publication date for all the US publications for an invention <<<
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<
>>> records and may be searched in standard search fields, e.g., /PN, <<<
>>> /PK, etc. <<<

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>>> enter this cluster. <<<
>>> <<<
>>> Use USPATALL when searching terms such as patent assignees, <<<
>>> classifications, or claims, that may potentially change from <<<
>>> the earliest to the latest publication. <<<

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L17 STR
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L19 STR
L20 STR
L22 1236 SEA FILE=REGISTRY SSS FUL (L15 OR (L17 OR L18 OR L19)) NOT L20
L23 1234 SEA FILE=REGISTRY ABB=ON L22/COMPLETE
L35 220 SEA FILE=REGISTRY ABB=ON L23 AND USPATFULL/LC
L52 420 SEA FILE=USPATFULL ABB=ON L35
L53 818 SEA FILE=USPATFULL ABB=ON RADIATION/CT OR RADIATION DAMAGE/CT OR RADIATION SICKNESS/CT
L54 2745 SEA FILE=USPATFULL ABB=ON RADIATION(1A)(INDUC? OR INJUR? OR SICKNESS? OR SYNDROME# OR POISONING# OR DAMAG? OR EXPOSURE# OR PNEUMONI? OR FIBROSIS)/IT,TI,AB,CLM
L55 3 SEA FILE=USPATFULL ABB=ON (OSTEORADIONECRO? OR RADIODERMATITIS)/IT,TI,AB,CLM
L56 413 SEA FILE=USPATFULL ABB=ON (RADIATION PROTECT? OR RADIOPROTECT?)/IT,TI,AB,CLM
L57 2 SEA FILE=USPATFULL ABB=ON L52 AND (L53 OR L54 OR L55 OR L56)

FILE 'BIOSIS' ENTERED AT 14:32:12 ON 31 MAR 2003
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FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 26 March 2003 (20030326/ED)

L15 STR
L17 STR
L18 STR
L19 STR
L20 STR
L22 1236 SEA FILE=REGISTRY SSS FUL (L15 OR (L17 OR L18 OR L19)) NOT L20
L23 1234 SEA FILE=REGISTRY ABB=ON L22/COMPLETE
L36 15 SEA FILE=REGISTRY ABB=ON L23 AND BIOSIS/LC
L58 749 SEA FILE=BIOSIS ABB=ON L36
L59 26727 SEA FILE=BIOSIS ABB=ON RADIATION(1A)(INDUC? OR INJUR? OR

```
                SICKNESS? OR SYNDROME# OR POISONING# OR DAMAG? OR EXPOSURE# OR
                PNEUMONI? OR FIBROSIS)
L60          339 SEA FILE=BIOSIS ABB=ON  (OSTEORADIONECRO? OR RADIODERMATITIS)
L61         8862 SEA FILE=BIOSIS ABB=ON  (RADIATION PROTECT? OR RADIOPROTECT?)
L62            7 SEA FILE=BIOSIS ABB=ON  L58 AND (L59 OR L60 OR L61)


=> dup rem l31,l57,l46,l51,l62
FILE 'HCAPLUS' ENTERED AT 14:32:28 ON 31 MAR 2003
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FILE 'MEDLINE' ENTERED AT 14:32:28 ON 31 MAR 2003

FILE 'CANCERLIT' ENTERED AT 14:32:28 ON 31 MAR 2003

FILE 'BIOSIS' ENTERED AT 14:32:28 ON 31 MAR 2003
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PROCESSING COMPLETED FOR L31
PROCESSING COMPLETED FOR L57
PROCESSING COMPLETED FOR L46
PROCESSING COMPLETED FOR L51
PROCESSING COMPLETED FOR L62
L74           25 DUP REM L31 L57 L46 L51 L62 (15 DUPLICATES REMOVED)
                 ANSWERS '1-4' FROM FILE HCAPLUS
                 ANSWER '5' FROM FILE USPATFULL
                 ANSWERS '6-19' FROM FILE MEDLINE
                 ANSWERS '20-25' FROM FILE BIOSIS

=> d ibib abs hitstr 1-5; d iall 6-25

L74  ANSWER 1 OF 25  HCAPLUS  COPYRIGHT 2003 ACS       DUPLICATE 3
ACCESSION NUMBER:         2001:257991  HCAPLUS
DOCUMENT NUMBER:          134:274987
TITLE:                    Substituted pyridino pentaazamacrocycle complexes
                          having superoxide dismutase activity as therapeutic
                          agents
INVENTOR(S):              Riley, Dennis P.; Neumann, William L.; Henke, Susan
                          L.; Lennon, Patrick; Aston, Karl W.; Salvemini,
                          Daniela; Sikorski, James A.; Fobian, Yvette M.;
                          Grapperhaus, Margaret Lanahan; Kusturin, Carrie L.
PATENT ASSIGNEE(S):       Monsanto Company, USA
SOURCE:                   U.S., 51 pp., Cont.-in-part of U.S. Ser. No. 57,831.
                          CODEN: USXXAM
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   4
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
     US 6214817         B1   20010410      US 1999-398120   19990916
     US 6180620         B1   20010130      US 1998-57831    19980409
     WO 2001019823      A2   20010322      WO 2000-US25154  20000914
     WO 2001019823      A3   20010907
     WO 2001019823      C2   20020926
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
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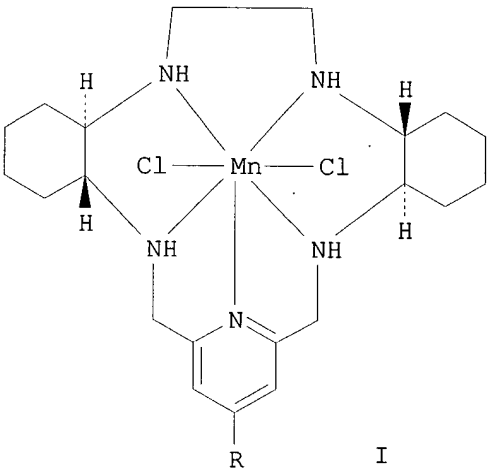
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1212323 A2 20020612 EP 2000-966722 20000914
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, SI, LT, LV, FI, RO, MK, CY, AL
JP 2003509423 T2 20030311 JP 2001-523400 20000914
PRIORITY APPLN. INFO.: US 1997-50402P P 19970620
US 1998-57831 A2 19980409
US 1999-398120 A 19990916
WO 2000-US25154 W 20000914
OTHER SOURCE(S): MARPAT 134:274987
GI



I

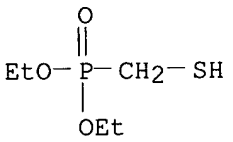
AB The present invention relates to compds. which are effective as catalysts for dismutating superoxide and, more particularly, the Mn or Fe complexes of substituted, unsatd. heterocyclic pentaazacyclopentadecane ligands which catalytically dismutate superoxide. The present invention is directed to low mol. wt. catalysts, e.g., I (R = cyclohexyl, StBu, SCH2CH2NH2, etc.), for the dismutation of superoxide radicals (SOD mimics) useful as therapeutic agents for inflammatory disease states and disorders in which superoxide anions are implicated. The SOD mimics are Mn or Fe complexes of N-contg. 15-membered macrocycle ligands which comprise a substituted, unsatd., N-contg. heterocyclic moiety, most preferably those with cyclohexyl, hydroxyl, alkylthio, alkyl 2-thioacetate, benzyloxy, methoxyarylthio, alkoxycarbonylarylthio, and aryl 2-thioacetate substituents. Preferably, the N-contg. heterocyclic moiety is arom., more preferably, a pyridino moiety. Novel methods of modifying the substituents on the heterocyclic moiety after chelation with the metal ion are also presented. Addn. of substituents to the unsatd. N-contg. heterocyclic moiety on the pentaazacyclopentadecane macrocycle in the above complexes can drastically alter both the superoxide dismutase catalytic activity and increase the efficacy of these complexes as pharmaceutical agents. The compds. of the invention exhibit a marked increase in potency for the prevention or reversal of opioid tolerance as compared to previously disclosed complexes with unsubstituted N-contg. heterocyclic moieties. These compds. are <10 times more potent as

pharmaceutical agents for antiinflammatory and analgesic compns. and are as good as, or often better than, the parent unsubstituted compds. in applications such as treatment of endotoxin-induced refractory hypotension. Specific diseases or disorders for which the compds. are claimed as pharmaceutical agents include reperfusion injury to the ischemic myocardium, general inflammation, inflammatory bowel disease, rheumatoid arthritis, osteoarthritis, hypertension, psoriasis, organ transplant rejection, organ preservation, **radiation-induced injury**, platelet aggregation, stroke, autoimmune diseases, carcinogenesis, severe chronic pain, reversal of opioid tolerance, hyperalgesia, and sepsis. Two exemplary formulations for topical application are presented.

IT **70660-05-8**, Diethyl mercaptomethylphosphonate
RL: RCT (Reactant); RACT (Reactant or reagent)
(for prepn. of manganese substituted pyridino pentaazacyclopentadecane complexes)

RN 70660-05-8 HCAPLUS

CN Phosphonic acid, (mercaptomethyl)-, diethyl ester (9CI) (CA INDEX NAME)



REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L74 ANSWER 2 OF 25 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 10

ACCESSION NUMBER: 1993:250739 HCAPLUS

DOCUMENT NUMBER: 118:250739

TITLE: UV-radiation protecting efficacy of thiols, studied with UVA-induced binding of 8-MOP and CPZ to rat epidermal biomacromolecules in vivo

AUTHOR(S): van den Broeke, L. T.; Beyersbergen van Henegouwen, G. M. J.

CORPORATE SOURCE: Cent. BioPharm. Sci., Leiden Univ., Leiden, 2300 RA, Neth.

SOURCE: International Journal of Radiation Biology (1993), 63(4), 493-500
CODEN: IJRBE7; ISSN: 0955-3002

DOCUMENT TYPE: Journal

LANGUAGE: English

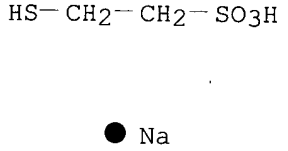
AB The following topically applied thiols were investigated with regard to their possible UV-radiation protective properties: captopril, cysteamine, ergothioneine, mesna, mercaptopropionylglycine, N-acetylcysteine, and penicillamine. As a measure for protection, the inhibition of in vivo irreversible photobinding of the labeled phototoxic drugs chlorpromazine (CPZ) and 8-methoxypsoralen (8-MOP) to rat epidermal biomacromols. was used. Ergothioneine, mesna and penicillamine did not show any effect; probably, as a result of their charge they are not able to enter the stratum corneum. Captopril, cysteamine, mercaptopropionylglycine, and N-acetylcysteine showed a considerable inhibition of CPZ and 8-MOP photobinding. Captopril and N-acetylcysteine were clearly the most potent whereas cysteamine was the least effective. Captopril, mercaptopriopionylglycine, and N-acetylcysteine appeared to have a wider action range and to be a more effective protector than dl-.alpha.-tocopherol and dibutylhydroxytoluene. Cysteamine and mercaptopropionylglycine were only capable of protecting the stratum corneum. Captopril and N-acetylcysteine, on the other hand, showed an addnl. dose-dependent inhibition of photobinding to the viable epidermis.

Gradually with increasing time after application, the protecting efficacy with regard to the viable layer of the epidermis decreased, the duration of protection depending on the dose.

IT **19767-45-4**, Mesna
RL: BIOL (Biological study)
(photoprotection by, of skin epidermis from UV radiation, chlorpromazine and methoxypsoralen photobinding to biomols. in skin epidermis in study of)

RN 19767-45-4 HCAPLUS

CN Ethanesulfonic acid, 2-mercapto-, monosodium salt (8CI, 9CI) (CA INDEX NAME)



L74 ANSWER 3 OF 25 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 12

ACCESSION NUMBER: 1988:200907 HCAPLUS

DOCUMENT NUMBER: 108:200907

TITLE: Radioprotection of DNA by thiols: relationship between the net charge on a thiol and its ability to protect DNA

AUTHOR(S): Zheng, Sixin; Newton, Gerald L.; Gonick, Geoff; Fahey, Robert C.; Ward, John F.

CORPORATE SOURCE: Dep. Chem., Univ. California, San Diego, La Jolla, CA, 92093, USA

SOURCE: Radiation Research (1988), 114(1), 11-27
CODEN: RAREAE; ISSN: 0033-7587

DOCUMENT TYPE: Journal

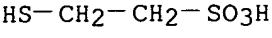
LANGUAGE: English

AB Release of free bases from calf thymus DNA upon .gamma.-irradn. in aerated 0.1 mol/dm3 NaClO4 at pH 7 has been measured by HPLC and shown to be markedly influenced by the presence of thiols during irradn. The ability of thiols to protect DNA was shown to depend upon the net charge (Z) at pH 7 in the order WR 1065 (Z = +2) > cysteamine (Z = +1) > 2-mercaptoethanol (Z = 0) .apprxeq. dithiothreitol (Z = 0) > GSH (Z = -1) .apprxeq. 2-mercaptoethanesulfonic acid (Z = 11) .apprxeq. 2-mercaptosuccinate (Z = -2). A similar dependence of protection upon net charge was found for disulfides, i.e., cystamine (Z = +2) > 2-mercaptoethyl disulfide (Z = 0) > GSSG (Z = -2). Protection by WR 1065, but not by 2-mercaptoethanol or GSH, decreased with increasing ionic strength. Protection by WR 1065 and GSH was not markedly dependent upon pH at pH 6-8. The results are explained in terms of electrostatic interaction of the thiols with DNA, leading to high concns. of cations near DNA, which allow them to scavenge OH radicals and repair DNA radicals effectively and to low concns. of anionic thiols near DNA, which limit their effectiveness as protectors. Poly(dG,dC) and calf thymus DNA exhibited comparable release of G and C upon changing 0.1 to 0.7 mol/dm3 MgSO4. Since this change causes poly(dG,dC), but not calf thymus DNA, to undergo a change from the B-form to the Z-form of DNA, both forms must have a comparable susceptibility to **radiation-induced** base release.

IT **3375-50-6**, 2-Mercaptoethanesulfonic acid
RL: BIOL (Biological study)
(radioprotection by, of DNA, elec. net charge in relation to)

RN 3375-50-6 HCAPLUS

CN Ethanesulfonic acid, 2-mercapto- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



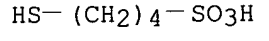
L74 ANSWER 4 OF 25 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1995:667123 HCAPLUS
DOCUMENT NUMBER: 123:70398
TITLE: Heat mode recording and method for making a printing plate with it
INVENTOR(S): Verburgh, Yves; Dewanckele, Jean-Marie; Heugebaert, Franciscus; Leenders, Luc
PATENT ASSIGNEE(S): Agfa-Gevaert N. V., Belg.
SOURCE: Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 628409	A1	19941214	EP 1993-201686	19930611
EP 628409	B1	19970910		

R: BE, DE, FR, GB, NL
PRIORITY APPLN. INFO.: EP 1993-201686 19930611
OTHER SOURCE(S): MARPAT 123:70398
AB A method for making a lithog. printing plate comprising image-wise **exposing** to actinic **radiation** a heat mode recording material comprising on a support a metallic layer and on top thereof a hydrophilic layer having a thickness of <50 nm thereby rendering the exposed areas hydrophobic and acceptant to greasy ink. The obtained printing plate may be used without further processing.
IT **84110-45-2**
RL: DEV (Device component use); USES (Uses)
(hydrophilizing agent; heat mode recording and method for making a printing plate with it)
RN 84110-45-2 HCAPLUS
CN 1-Butanesulfonic acid, 4-mercapto-, compd. with guanidine (1:1) (9CI) (CA INDEX NAME)

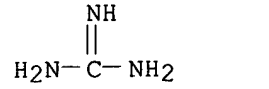
CM 1

CRN 24687-42-1
CMF C4 H10 O3 S2



CM 2

CRN 113-00-8
CMF C H5 N3



L74 ANSWER 5 OF 25 USPATFULL

ACCESSION NUMBER: 2002:165183 USPATFULL
TITLE: Methods and compositions for diagnosis and treatment of cancer
INVENTOR(S): Schweinfest, Clifford W., Mt. Pleasant, SC, UNITED STATES
Waston, Dennis K., Mt. Pleasant, SC, UNITED STATES
Cole, David Jefferson, Mt. Pleasant, SC, UNITED STATES
Boylan, Alice Maxine, Charleston, SC, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002086812	A1	20020704
APPLICATION INFO.:	US 2001-870844	A1	20010531 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1998-34418, filed on 4 Mar 1998, PENDING

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-39980P	19970304 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PENNIE AND EDMONDS, 1155 AVENUE OF THE AMERICAS, NEW YORK, NY, 100362711
NUMBER OF CLAIMS: 37
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 32 Drawing Page(s)
LINE COUNT: 4231
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a novel gene, CaSm, that is highly expressed in cancer tissues and cell lines, especially pancreatic cancer. The full length cDNA of CaSm encodes a protein of 133 amino acids. The present invention further encompasses CaSm peptides, fusion proteins, host cell expression systems, antibodies to CaSm, antisense CaSm molecules, and compounds that modulate CaSm gene expression or CaSm activity. The present invention also encompasses methods for disease diagnosis, drug screening and the treatment of cancer. In particular, the combined use of a CaSm antagonist with a therapeutic agent to treat cancer is encompassed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **19767-45-4**, Mesna
(methods and compns. for diagnosis and treatment of cancer by modulation of Cancer-assocd. Sm-like protein-encoding gene CaSm)
RN 19767-45-4 USPATFULL
CN Ethanesulfonic acid, 2-mercapto-, monosodium salt (8CI, 9CI) (CA INDEX NAME)

$HS-CH_2-CH_2-SO_3H$

● Na

L74 ANSWER 6 OF 25 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2002322846 MEDLINE
DOCUMENT NUMBER: 22060848 PubMed ID: 12065567
TITLE: 2002 update of recommendations for the use of chemotherapy

and radiotherapy protectants: clinical practice guidelines of the American Society of Clinical Oncology.

AUTHOR: Schuchter Lynn M; Hensley Martee L; Meropol Neal J; Winer Eric P

CORPORATE SOURCE: American Society of Clinical Oncology, Alexandria, VA 22314, USA. (American Society of Clinical Oncology Chemotherapy and Radiotherapy Expert Panel). guidelines@asco.org

SOURCE: JOURNAL OF CLINICAL ONCOLOGY, (2002 Jun 15) 20 (12) 2895-903.
Journal code: 8309333. ISSN: 0732-183X.

PUB. COUNTRY: United States

DOCUMENT TYPE: (GUIDELINE)
Journal; Article; (JOURNAL ARTICLE)
(PRACTICE GUIDELINE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200207

ENTRY DATE: Entered STN: 20020615
Last Updated on STN: 20020709
Entered Medline: 20020708

CONTROLLED TERM: Check Tags: Human
Amifostine: AD, administration & dosage
Amifostine: PD, pharmacology
*Amifostine: TU, therapeutic use
Antineoplastic Agents: AE, adverse effects
Chelating Agents: AD, administration & dosage
Chelating Agents: PD, pharmacology
*Chelating Agents: TU, therapeutic use
Mesna: AD, administration & dosage
Mesna: PD, pharmacology
*Mesna: TU, therapeutic use
Neoplasms: DT, drug therapy
Protective Agents: AD, administration & dosage
Protective Agents: PD, pharmacology
*Protective Agents: TU, therapeutic use
Radiation-Protective Agents: AD, administration & dosage
Radiation-Protective Agents: PD, pharmacology
***Radiation-Protective Agents: TU, therapeutic use**
Radiotherapy: AE, adverse effects
Razoxane: AD, administration & dosage
Razoxane: PD, pharmacology
*Razoxane: TU, therapeutic use

CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 20537-88-6 (Amifostine); 21416-87-5 (Razoxane)

CHEMICAL NAME: 0 (Antineoplastic Agents); 0 (Chelating Agents); 0 (Protective Agents); 0 (Radiation-Protective Agents)

Registry records for hits from Medline, Cancerlit, & Bidsis printed at end of search

L74 ANSWER 7 OF 25 MEDLINE DUPLICATE 2

ACCESSION NUMBER: 2002268661 MEDLINE

DOCUMENT NUMBER: 22003565 PubMed ID: 12008205

TITLE: BNP7787, a novel protector against platinum-related toxicities, does not affect the efficacy of cisplatin or carboplatin in human tumour xenografts.

AUTHOR: Boven E; Verschraagen M; Hulscher T M; Erkelens C A M; Hausheer F H; Pinedo H M; van der Vijgh W J F

CORPORATE SOURCE: Department of Medical Oncology, Vrije Universiteit Medical Centre, De Boelelaan 1117, Amsterdam, The Netherlands.. e.boven@vumc.edu

SOURCE: EUROPEAN JOURNAL OF CANCER, (2002 May) 38 (8) 1148-56.
Journal code: 9005373. ISSN: 0959-8049.

PUB. COUNTRY: England: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200207
ENTRY DATE: Entered STN: 20020515
Last Updated on STN: 20020719
Entered Medline: 20020718

ABSTRACT:
BNP7787 (2',2'-dithio-bis-ethane sulphonate sodium), a water-soluble disulphide, is chemically and mechanistically different from other sulphur-containing chemoprotective agents. Presently, BNP7787 is under investigation for its protective properties with regard to the side-effects of platinum compounds. In this study, we evaluated BNP7787, mesna and amifostine for their effects on the antitumour activity of platinum compounds. Continuous exposure to BNP7787 did not affect the antiproliferative effects of cisplatin or carboplatin, but the efficacy of both compounds was reduced in the presence of mesna in vitro in two human ovarian cancer cell lines. BNP7787 or amifostine combined with cisplatin or carboplatin given in standard schedules for the treatment of nude mice bearing well-established OVCAR-3 xenografts did not interfere with platinum-induced inhibition of tumour growth. Of interest, BNP7787 or amifostine co-administered with carboplatin was significantly more effective than carboplatin alone ($P<0.01$). In the presence of amifostine, doses of cisplatin and carboplatin could be safely increased by factors of 1.6 and 1.5, respectively. Unlike in a previous study of BNP7787 in tumour-bearing rats, BNP7787 did not protect against additional weight loss following treatment with higher doses of cisplatin in OVCAR-3-bearing mice. Pharmacokinetics of (mixed) disulphides including BNP7787 and extractable mesna in deproteinised plasma revealed a rapid disappearance of BNP7787 and an AUC(5-60) value of mesna 9-fold lower than that calculated after an equivalent dose of mesna by weight. We can conclude that BNP7787 does not interfere with the antitumour activity of platinum compounds in vitro and in vivo. Clinical trials are underway to evaluate the protection of normal tissues by BNP7787 when combined with cisplatin.

CONTROLLED TERM: Check Tags: Animal; Female; Human
Amifostine: PD, pharmacology
*Antineoplastic Agents: TU, therapeutic use
*Carboplatin: TU, therapeutic use
Cell Division: DE, drug effects
*Cisplatin: TU, therapeutic use
Drug Interactions
Lethal Dose 50
*Mesna: AA, analogs & derivatives
Mesna: BL, blood
Mesna: PK, pharmacokinetics
*Mesna: PD, pharmacology
Mice
Mice, Nude
Neoplasm Transplantation
*Ovarian Neoplasms: DT, drug therapy
Ovarian Neoplasms: PA, pathology
*Protective Agents: PD, pharmacology
Radiation-Protective Agents: PD, pharmacology
Transplantation, Heterologous
Weight Loss

CAS REGISTRY NO.: 15663-27-1 (Cisplatin); **19767-45-4 (Mesna)**; 20537-88-6 (Amifostine); 41575-94-4 (Carboplatin); **45127-11-5 (2,2'-dithiodiethanesulfonic acid)**

CHEMICAL NAME: 0 (Antineoplastic Agents); 0 (Protective Agents); 0 (Radiation-Protective Agents)

L74 ANSWER 8 OF 25 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 2001555600 MEDLINE

DOCUMENT NUMBER: 21488210 PubMed ID: 11602522
TITLE: Blood thiols following amifostine and mesna infusions, a pediatric oncology group study.
AUTHOR: Souid A K; Fahey R C; Aktas M K; Sayin O A; Karjoo S; Newton G L; Sadowitz P D; Dubowy R L; Bernstein M L
CORPORATE SOURCE: Department of Pediatrics, State University of New York, Upstate Medical University, Syracuse, New York, USA.. souida@upstate.edu
SOURCE: DRUG METABOLISM AND DISPOSITION, (2001 Nov) 29 (11) 1460-6. Journal code: 9421550. ISSN: 0090-9556.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200201
ENTRY DATE: Entered STN: 20011017
Last Updated on STN: 20020125
Entered Medline: 20020107

ABSTRACT:
The Pediatric Oncology Group study for metastatic Ewing's sarcoma used amifostine and mesna with the alkylating agents. To determine the fate of combined drug thiols, we measured thiol levels in plasma, red blood cells (RBC), and peripheral blood mononuclear cells (PBMC) of four patients. We also conducted analogous measurements on two patients who received mesna alone and a volunteer's blood following in vitro treatment. Thiols were labeled with monobromobimane, separated on high-pressure liquid chromatography, and detected by fluorescence. Incubation of a volunteer's blood with mesna, WR-1065, or both revealed that cellular uptake of total reducible drug was approximately 10% of plasma level for mesna but approximately 60% for WR-1065. Cellular drugs were mainly the thiol form, whereas half of the plasma drugs were disulfides. Combined incubation with both thiols did not change the extent or form of uptake. WR-1065 and mesna prevented glutathione depletion by 4-hydroperoxycyclophosphamide. Results from patients were similar. WR-1065 and mesna appeared in the cells by the end of the drug infusions, although WR-1065 uptake was more efficient than mesna. The concentration-time profiles of mesna in RBC paralleled those in plasma. Amifostine administration during mesna infusion caused transient increase in mesna levels. Both agents increased blood cysteine and decreased total reducible cysteine. Mesna alone and mesna plus amifostine prevented cellular glutathione depletion. In conclusion, mesna is imported by RBC and PBMC, but less efficiently than WR-1065. When present at equal levels, these thiols do not influence each other's uptake. Adequate dosing of either drug is necessary for protecting the cells from toxic effects of alkylating agents.

CONTROLLED TERM: Check Tags: Female; Human; Male; Support, Non-U.S. Gov't
Adolescence
Adult
*Amifostine: AD, administration & dosage
Amifostine: ME, metabolism
Amifostine: TU, therapeutic use
*Antineoplastic Combined Chemotherapy Protocols: BL, blood
Antineoplastic Combined Chemotherapy Protocols: TU, therapeutic use
Child
Chromatography, High Pressure Liquid
Disulfides: ME, metabolism
Infusions, Intravenous
Leukocytes, Mononuclear: DE, drug effects
Leukocytes, Mononuclear: ME, metabolism
Mercaptoethylamines: AD, administration & dosage
Mercaptoethylamines: BL, blood
Mercaptoethylamines: TU, therapeutic use
*Mesna: AD, administration & dosage

Mesna: BL, blood
Mesna: TU, therapeutic use
*Protective Agents: AD, administration & dosage
Protective Agents: ME, metabolism
Protective Agents: TU, therapeutic use
***Radiation-Protective Agents: AD, administration & dosage**
Radiation-Protective Agents: ME, metabolism
Radiation-Protective Agents: TU, therapeutic use
Sarcoma, Ewing's: BL, blood
Sarcoma, Ewing's: DT, drug therapy
*Sulfhydryl Compounds: BL, blood

CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 20537-88-6 (Amifostine); 31098-42-7 (WR 1065)

CHEMICAL NAME: 0 (Antineoplastic Combined Chemotherapy Protocols); 0 (Disulfides); 0 (Mercaptoethylamines); 0 (Protective Agents); 0 (Radiation-Protective Agents); 0 (Sulfhydryl Compounds)

L74 ANSWER 9 OF 25 MEDLINE DUPLICATE 5

ACCESSION NUMBER: 2001388151 MEDLINE

DOCUMENT NUMBER: 21335449 PubMed ID: 11441524

TITLE: [Development of cancer chemotherapy. Cytoprotective agents].
I successi della chemioterapia del cancro. I farmaci citoprotettori.

AUTHOR: Lopez M

CORPORATE SOURCE: Istituto Regina Elena per lo Studio e la Cura dei Tumori, Roma, Italia.

SOURCE: CLINICA TERAPEUTICA, (2001 Mar-Apr) 152 (2) 135-43. Ref: 116
Journal code: 0372604. ISSN: 0009-9074.

PUB. COUNTRY: Italy

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)

LANGUAGE: Italian

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200109

ENTRY DATE: Entered STN: 20010917
Last Updated on STN: 20010917
Entered Medline: 20010913

CONTROLLED TERM: Check Tags: Animal; Comparative Study; Female; Human; Male
Alkylation
Amifostine: TU, therapeutic use
Antineoplastic Agents: AE, adverse effects
Antineoplastic Agents: ME, metabolism
*Antineoplastic Agents: TU, therapeutic use
Chelating Agents: TU, therapeutic use
Clinical Trials
*Cytoprotection
Ethylenediamines: TU, therapeutic use
Glutathione: TU, therapeutic use
Glycine: AA, analogs & derivatives
Glycine: TU, therapeutic use
Hydrolysis
Mesna: TU, therapeutic use
*Neoplasms: DT, drug therapy
*Protective Agents: TU, therapeutic use
Radiation-Protective Agents: TU, therapeutic use
Rats
Razoxane: TU, therapeutic use
Tumor Cells, Cultured

CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 20537-88-6 (Amifostine); 21416-87-5 (Razoxane); 56-40-6 (Glycine); 70-18-8 (Glutathione); 75459-34-6 (ICRF 198)
CHEMICAL NAME: 0 (Antineoplastic Agents); 0 (Chelating Agents); 0 (Ethylenediamines); 0 (Protective Agents); 0 (Radiation-Protective Agents)

L74 ANSWER 10 OF 25 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 2001425977 MEDLINE
DOCUMENT NUMBER: 21340676 PubMed ID: 11441287
TITLE: [Recommendations of the Working Group 'Supportive Massnahmen in der Onkologie' concerning the Clinical Use of Cytoprotectives].
Empfehlungen des Arbeitskreises, Supportive Massnahmen in der Onkologie, zur klinischen Anwendung von Zytoprotektiva.
AUTHOR: Buntzel J; Bokemeyer C; Wagner W
CORPORATE SOURCE: Klinik fur HNO-Krankheiten, Zentralklinikum Suhl, Suhl. (AG Zytoprotektion innerhalb des AK SUPPO).
SOURCE: ONKOLOGIE, (2001 Feb) 24 (1) 81-6.
Journal code: 7808556. ISSN: 0378-584X.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: German
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200109
ENTRY DATE: Entered STN: 20010924
Last Updated on STN: 20010924
Entered Medline: 20010920
CONTROLLED TERM: Check Tags: Human
Amifostine: AD, administration & dosage
*Antineoplastic Agents: AE, adverse effects
Antineoplastic Agents: TU, therapeutic use
Cell Survival: DE, drug effects
Clinical Trials
*Cytoprotection
Cytoprotection: DE, drug effects
Cytoprotection: RE, radiation effects
Mesna: AD, administration & dosage
*Neoplasms: DT, drug therapy
*Palliative Care: MT, methods
Practice Guidelines
Radiation-Protective Agents: AD, administration & dosage
CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 20537-88-6 (Amifostine)
CHEMICAL NAME: 0 (Antineoplastic Agents); 0 (Radiation-Protective Agents)

L74 ANSWER 11 OF 25 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 1999438207 MEDLINE
DOCUMENT NUMBER: 99438207 PubMed ID: 10506637
TITLE: American Society of Clinical Oncology clinical practice guidelines for the use of chemotherapy and radiotherapy protectants.
COMMENT: Comment in: J Clin Oncol. 2000 Aug;18(16):3064
Comment in: J Clin Oncol. 2000 May;18(9):2004-6
Comment in: J Clin Oncol. 2001 Jul 15;19(14):3439-41
AUTHOR: Hensley M L; Schuchter L M; Lindley C; Meropol N J; Cohen G I; Broder G; Gradishar W J; Green D M; Langdon R J Jr; Mitchell R B; Negrin R; Szatrowski T P; Thigpen J T; Von Hoff D; Wasserman T H; Winer E P; Pfister D G
CORPORATE SOURCE: American Society of Clinical Oncology, Health Services Research Department, Alexandria, VA 22314, USA.. guideline@asco.org
SOURCE: JOURNAL OF CLINICAL ONCOLOGY, (1999 Oct) 17 (10) 3333-55.

Journal code: 8309333. ISSN: 0732-183X.
PUB. COUNTRY: United States
DOCUMENT TYPE: (GUIDELINE)
Journal; Article; (JOURNAL ARTICLE)
(PRACTICE GUIDELINE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200001
ENTRY DATE: Entered STN: 20000114
Last Updated on STN: 20020419
Entered Medline: 20000104

ABSTRACT:
PURPOSE: Because toxicities associated with chemotherapy and radiotherapy can adversely affect short- and long-term patient quality of life, can limit the dose and duration of treatment, and may be life-threatening, specific agents designed to ameliorate or eliminate certain chemotherapy and radiotherapy toxicities have been developed. Variability in interpretation of the available data pertaining to the efficacy of the three United States Food and Drug Administration-approved agents that have potential chemotherapy- and radiotherapy-protectant activity-dexrazoxane, mesna, and amifostine-and questions about the role of these protectant agents in cancer care led to concern about the appropriate use of these agents. The American Society of Clinical Oncology sought to establish evidence-based, clinical practice guidelines for the use of dexrazoxane, mesna, and amifostine in patients who are not enrolled on clinical treatment trials. METHODS: A multidisciplinary Expert Panel reviewed the clinical data regarding the activity of dexrazoxane, mesna, and amifostine. A computerized literature search was performed using MEDLINE. In addition to reports collected by individual Panel members, all articles published in the English-speaking literature from June 1997 through December 1998 were collected for review by the Panel chairpersons, and appropriate articles were distributed to the entire Panel for review. Guidelines for use, levels of evidence, and grades of recommendation were reviewed and approved by the Panel. Outcomes considered in evaluating the benefit of a chemotherapy- or radiotherapy-protectant agent included amelioration of short- and long-term chemotherapy- or radiotherapy-related toxicities, risk of tumor protection by the agent, toxicity of the protectant agent itself, quality of life, and economic impact. To the extent that these data were available, the Panel placed the greatest value on lesser toxicity that did not carry a concomitant risk of tumor protection. RESULTS AND CONCLUSION: Mesna: (1) Mesna, dosed as detailed in these guidelines, is recommended to decrease the incidence of standard-dose ifosfamide-associated urothelial toxicity. (2) There is insufficient evidence on which to base a guideline for the use of mesna to prevent urothelial toxicity with ifosfamide doses that exceed 2.5 g/m(2)/d. (3) Either mesna or forced saline diuresis is recommended to decrease the incidence of urothelial toxicity associated with high-dose cyclophosphamide use in the stem-cell transplantation setting. Dexrazoxane: (1) The use of dexrazoxane is not routinely recommended for patients with metastatic breast cancer who receive initial doxorubicin-based chemotherapy. (2) The use of dexrazoxane may be considered for patients with metastatic breast cancer who have received a cumulative dosage of 300 mg/m(2) or greater of doxorubicin in the metastatic setting and who may benefit from continued doxorubicin-containing therapy. (3) The use of dexrazoxane in the adjuvant setting is not recommended outside of a clinical trial. (4) The use of dexrazoxane can be considered in adult patients who have received more than 300 mg/m(2) of doxorubicin-based therapy for tumors other than breast cancer, although caution should be used in settings in which doxorubicin-based therapy has been shown to improve survival because of concerns of tumor protection by dexrazoxane. (5) There is insufficient evidence to make a guideline for the use of dexrazoxane in the treatment of pediatric malignancies, with epirubicin-based regimens, or with high-dose anthracycline-containing regimens. Similarly, there is insufficient evidence on which to base a guideline for the use of dexrazoxane in patients with cardiac risk factors or underlying cardiac disease. (6) Patients receiving dexrazoxane should continue to be monitored for

cardiac toxicity. Amifostine: (1) Amifostine may be considered for the reduction of nephrotoxicity in patients receiving cisplatin-based chemoth

CONTROLLED TERM: Check Tags: Human
Adult
*Amifostine: TU, therapeutic use
Antineoplastic Agents: AE, adverse effects
*Cardiovascular Agents: TU, therapeutic use
*Mesna: TU, therapeutic use
Neoplasms: DT, drug therapy
Neoplasms: RT, radiotherapy
*Protective Agents: TU, therapeutic use
***Radiation-Protective Agents: TU, therapeutic use**
Radiotherapy: AE, adverse effects
*Razoxane: TU, therapeutic use
CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 20537-88-6 (Amifostine); 21416-87-5 (Razoxane)
CHEMICAL NAME: 0 (Antineoplastic Agents); 0 (Cardiovascular Agents); 0 (Protective Agents); 0 (Radiation-Protective Agents)

L74 ANSWER 12 OF 25 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 2000019951 MEDLINE
DOCUMENT NUMBER: 20019951 PubMed ID: 10550571
TITLE: WR-2721 (amifostine) infusion in patients with Ewing's sarcoma receiving ifosfamide and cyclophosphamide with mesna: drug and thiol levels in plasma and blood cells, a Pediatric Oncology Group study.
AUTHOR: Souid A K; Fahey R C; Dubowy R L; Newton G L; Bernstein M L
CORPORATE SOURCE: State University of New York, Health Science Center at Syracuse, Department of Pediatrics, 750 East Adams Street, Syracuse, NY 13210, USA.. souida@hscsyr.edu
CONTRACT NUMBER: CA-28439 (NCI)
CA-30969 (NCI)
CA-33587 (NCI)
+
SOURCE: CANCER CHEMOTHERAPY AND PHARMACOLOGY, (1999) 44 (6) 498-504.
Journal code: 7806519. ISSN: 0344-5704.
PUB. COUNTRY: GERMANY: Germany, Federal Republic of
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(MULTICENTER STUDY)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199911
ENTRY DATE: Entered STN: 20000113
Last Updated on STN: 20000113
Entered Medline: 19991130

ABSTRACT:
PURPOSE: Previous WR-2721 human pharmacokinetic studies were limited to plasma levels in patients receiving platinum-based compounds, and none includes the effects of WR-2721 on endogenous thiols. In the present study (Pediatric Oncology Group study no. 9457), we measured the levels of WR-2721, its active metabolites, as well as cysteine and glutathione in whole blood, plasma, and blood cells in patients receiving high-dose alkylating agents with mesna. METHODS: WR-2721 was administered (15 min intravenous infusion of 825 mg/m(2) per dose x2) to five patients with metastatic Ewing's sarcoma receiving ifosfamide and cyclophosphamide with mesna. Intracellular and extracellular blood thiols were labeled with monobromobimane (mBBr) at the time of collection, and the low molecular weight (LMW) thiols were subsequently separated by HPLC and detected by fluorescence. RESULTS: The active metabolite of the drug, WR-1065, peaked at 100 microM in plasma and blood cells at the end of WR-2721 infusion and decayed with a rapid initial half-life. Detectable

levels of WR-1065 and its LMW disulfides were present in plasma and blood cells at approximately 1 h after the WR-2721 infusion. By the end of the first WR-2721 infusion (prior to mesna infusion), the mean cysteine level more than doubled and the mean Cys-SS-LMW (cystine and the mixed LMW disulfides) level decreased by approximately 50% in both plasma and blood cells. In four of five patients, reduced glutathione levels in blood cells increased by the end of the first WR-2721 infusions, the average increment being approximately 36%. CONCLUSIONS: (1) WR-1065 is rapidly formed from WR-2721 and equilibrates between plasma and blood cells; (2) WR-1065 decays in plasma and blood cells with similar rapid initial half-lives of approximately 16 min; (3) WR-2721 treatment increases cysteine in plasma and blood cells, an effect similar to that of mesna; (4) WR-2721 treatment appears to increase glutathione levels in blood cells; (5) Mesna does not have a substantial effect on the fate of WR-2721 in patients.

CONTROLLED TERM: Check Tags: Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Adolescence
Adult
Amifostine: AD, administration & dosage
*Amifostine: PK, pharmacokinetics
*Amifostine: TU, therapeutic use
*Antineoplastic Combined Chemotherapy Protocols: BL, blood
*Antineoplastic Combined Chemotherapy Protocols: TU, therapeutic use
Blood Cells: ME, metabolism
Bone Neoplasms: BL, blood
*Bone Neoplasms: DT, drug therapy
Child
Cyclophosphamide: AD, administration & dosage
Cysteine: BL, blood
Ifosfamide: AD, administration & dosage
Infusions, Intravenous
Kinetics
Mesna: AD, administration & dosage
Radiation-Protective Agents: AD, administration & dosage
***Radiation-Protective Agents: TU, therapeutic use**
Sarcoma, Ewing's: BL, blood
*Sarcoma, Ewing's: DT, drug therapy
Sulfhydryl Compounds: BL, blood
Time Factors

CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 20537-88-6 (Amifostine); 3778-73-2 (Ifosfamide); 50-18-0 (Cyclophosphamide); 52-90-4 (Cysteine)

CHEMICAL NAME: 0 (Antineoplastic Combined Chemotherapy Protocols); 0 (Radiation-Protective Agents); 0 (Sulfhydryl Compounds)

L74 ANSWER 13 OF 25 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 1999208027 MEDLINE
DOCUMENT NUMBER: 99208027 PubMed ID: 10193684
TITLE: Chemoprotectants: a review of their clinical pharmacology and therapeutic efficacy.
AUTHOR: Links M; Lewis C
CORPORATE SOURCE: Department of Medical Oncology, Prince of Wales Hospital, Randwick, New South Wales, Australia.
SOURCE: DRUGS, (1999 Mar) 57 (3) 293-308. Ref: 94
Journal code: 7600076. ISSN: 0012-6667.
PUB. COUNTRY: New Zealand
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English

FILE SEGMENT: Priority Journals
ENTRY MONTH: 199906
ENTRY DATE: Entered STN: 19990614
Last Updated on STN: 19990614
Entered Medline: 19990602

ABSTRACT:
Dose-limiting toxicity secondary to antineoplastic chemotherapy is due to the inability of cytotoxic drugs to differentiate between normal and malignant cells. The consequences of this may include impairment of patient quality of life, because of toxicity, and reduced tumour control because of the inability to deliver adequate dose-intensive therapy against the cancer. Specific examples of toxicity against normal tissues include cisplatin-related neurotoxicity and nephrotoxicity, myelotoxicity secondary to treatment with alkylating agents and carboplatin, oxazaphosphorine-induced haemorrhagic cystitis, and cumulative dose-related cardiac toxicity secondary to anthracycline treatment. Chemoprotectants have been developed as a means of ameliorating the toxicity associated with cytotoxic agents by providing site-specific protection for normal tissues, without compromising antitumour efficacy. Clinical trials with toxicity protectors must include sufficient dose-limiting events for study, and assessment of both toxicity (allowing for measurement of efficacy of protection) and antitumour effect. Several chemoprotective compounds have now been extensively investigated, including dexrazoxane, amifostine, glutathione, mesna and ORG 2766. Dexrazoxane appears to complex with metal co-factors including iron, to reduce the incidence of anthracycline-induced cardiotoxicity, allowing the delivery of higher cumulative doses of anthracyclines without the expected consequence of cardiomyopathy. Numerous studies have demonstrated that sulfur-containing nucleophiles, including amifostine, glutathione, and mesna can specifically bind cisplatin- or alkylating agent-generated free radicals or alkylating agent metabolites to reduce the incidence of cisplatin-associated neurotoxicity and nephrotoxicity, or alkylating agent-associated myelosuppression and urothelial toxicity. These studies, in the majority of instances, have not revealed any evidence of reduction in antitumour efficacy. Further randomised trials are required to identify the optimal role of chemoprotectants when used alone or in combination with other toxicity modifiers including haemopoietic growth factors.

CONTROLLED TERM: Check Tags: Animal; Female; Human
*Amifostine: PK, pharmacokinetics
*Amifostine: TU, therapeutic use
Antineoplastic Agents: AE, adverse effects
*Antineoplastic Agents: TU, therapeutic use
Clinical Trials
*Corticotropin: AA, analogs & derivatives
Corticotropin: TU, therapeutic use
Glutathione: TU, therapeutic use
*Mesna: TU, therapeutic use
*Peptide Fragments: TU, therapeutic use
*Protective Agents: TU, therapeutic use
***Radiation-Protective Agents: PK, pharmacokinetics**
***Radiation-Protective Agents: TU, therapeutic use**
Razoxane: AE, adverse effects
*Razoxane: TU, therapeutic use

CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 20537-88-6 (Amifostine); 21416-87-5 (Razoxane); 50913-82-1 (Org 2766); 70-18-8 (Glutathione); 9002-60-2 (Corticotropin)

CHEMICAL NAME: 0 (Antineoplastic Agents); 0 (Peptide Fragments); 0 (Protective Agents); 0 (Radiation-Protective Agents)

L74 ANSWER 14 OF 25 MEDLINE DUPLICATE 11
ACCESSION NUMBER: 91231805 MEDLINE
DOCUMENT NUMBER: 91231805 PubMed ID: 1674274
TITLE: The effects of counter-ion condensation and co-ion

depletion upon the rates of chemical repair of poly(U) radicals by thiols.

AUTHOR: Fahey R C; Vojnovic B; Michael B D
CORPORATE SOURCE: Cancer Research Campaign, Gray Laboratory, Mount Vernon Hospital, Northwood, Middlesex, UK.

CONTRACT NUMBER: CA-39582 (NCI)
SOURCE: INTERNATIONAL JOURNAL OF RADIATION BIOLOGY, (1991 Apr) 59 (4) 885-99.
Journal code: 8809243. ISSN: 0955-3002.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals; Space Life Sciences
ENTRY MONTH: 199106
ENTRY DATE: Entered STN: 19910707
Last Updated on STN: 20000303
Entered Medline: 19910618

ABSTRACT:
Bimolecular rate constants for reactions of poly(U) radicals with a series of thiols of varying net charge (Z) were measured by pulse radiolysis with conductivity detection at low ionic strength. At pH 7 and 18 degrees C the values of k2 (M-1s-1) were: reduced glutathione (Z = -1), less than 500; 2-mercaptoethanesulphonic acid (Z = -1), 1.5 x 10(3); 2-mercaptoethanol (Z = 0), 1.8 x 10(5); cysteine (Z = 0), 2.0 x 10(5); cysteamine (Z = +1), 4.1 x 10(7). Values determined at pH 4 were: 2-mercaptoethanol, 6.1 x 10(5); cysteamine 2.2 x 10(8); N-(2-mercaptoethyl)-1,3-diaminopropane (WR-1065, Z = +2), 4.6 x 10(8). The variation in rate with structure could not reasonably be attributed to inherent reactivity differences in the thiols and was ascribed to inhomogeneous distributions of the thiols in solution resulting from electrostatic interactions. Thus, cationic thiols are concentrated approximately 100-fold near poly(U), relative to neutral thiols, as a consequence of counter-ion condensation, whereas anionic thiols have approximately 100-fold lower concentration near poly(U) than neutral thiols as a result of co-ion depletion. These results show that the ability of a thiol to repair radical sites in a polyanion is dramatically influenced by its net charge as a consequence of the counter-ion condensation and co-ion depletion phenomena.

CONTROLLED TERM: Check Tags: In Vitro; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Cysteamine: PD, pharmacology
Cysteine: PD, pharmacology
Electric Conductivity
Electrons
Glutathione: PD, pharmacology
Ions
Mercaptoethanol: PD, pharmacology
Mercaptoethylamines: PD, pharmacology
Mesna: PD, pharmacology
Particle Accelerators
*Poly U: CH, chemistry
Poly U: RE, radiation effects
Pulse Radiolysis
***Radiation-Protective Agents**
*Sulfhydryl Compounds: PD, pharmacology
CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 27416-86-0 (Poly U); 31098-42-7 (WR 1065); 52-90-4 (Cysteine); 60-23-1 (Cysteamine); 60-24-2 (Mercaptoethanol); 70-18-8 (Glutathione)
CHEMICAL NAME: 0 (Ions); 0 (Mercaptoethylamines); 0 (Radiation-Protective Agents); 0 (Sulfhydryl Compounds)

L74 ANSWER 15 OF 25 MEDLINE DUPLICATE 13

ACCESSION NUMBER: 87114354 MEDLINE
DOCUMENT NUMBER: 87114354 PubMed ID: 2880007
TITLE: Mesna and total body irradiation.
AUTHOR: Plowman P N; Trott K
SOURCE: LANCET, (1987 Jan 17) 1 (8525) 167.
Journal code: 2985213R. ISSN: 0140-6736.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Letter
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 198702
ENTRY DATE: Entered STN: 19900303
Last Updated on STN: 19950206
Entered Medline: 19870227
CONTROLLED TERM: Check Tags: Human
Bone Marrow Transplantation
*Leukemia: TH, therapy
*Mercaptoethanol: AA, analogs & derivatives
*Mesna: AD, administration & dosage
Premedication
***Radiation-Protective Agents: AD, administration & dosage**
*Whole-Body Irradiation
CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 60-24-2 (Mercaptoethanol)
CHEMICAL NAME: 0 (Radiation-Protective Agents)

L74 ANSWER 16 OF 25 MEDLINE DUPLICATE 14
ACCESSION NUMBER: 83245897 MEDLINE
DOCUMENT NUMBER: 83245897 PubMed ID: 6408550
TITLE: Cytogenetic testing of mutagenic and radioprotective effects of mesna.
AUTHOR: Becher R; Kakati S; Gibas Z; Sandberg A A
SOURCE: ONCOLOGY, (1983) 40 (4) 287-9.
Journal code: 0135054. ISSN: 0030-2414.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198308
ENTRY DATE: Entered STN: 19900319
Last Updated on STN: 19900319
Entered Medline: 19830817

ABSTRACT:
The effects of mesna (sodium 2-mercaptoethane-sulfonate) on the frequency of sister chromatid exchange (SCE) and chromosomal aberrations were studied in PHA-stimulated lymphocytes in vitro. Our data give no evidence for either an increase of SCE or chromosomal aberrations and, thus, do not suggest a mutagenic or cancerogenic potential of this drug, when used clinically for the reduction of urotoxicity caused by oxazaphosphorine derivatives in cancer therapy. The possibility of a radioprotective effect of mesna could not be supported by the results obtained in this test system. However, there remained a slight comutagenic effect of mesna, if used together with irradiation, which should be taken into account when this drug is administered in the preparation of patients for bone marrow transplantation.

CONTROLLED TERM: Check Tags: Human; In Vitro
*Chromosome Aberrations
*Crossing Over (Genetics): DE, drug effects
Drug Evaluation, Preclinical
Gamma Rays
Leukemia: TH, therapy
Lymphocyte Transformation
*Lymphocytes: DE, drug effects

Lymphocytes: RE, radiation effects
Lymphocytes: UL, ultrastructure
*Mercaptoethanol: AA, analogs & derivatives
Mesna: ME, metabolism
*Mesna: PD, pharmacology
Radiation-Protective Agents
*Sister Chromatid Exchange: DE, drug effects
CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 60-24-2 (Mercaptoethanol)
CHEMICAL NAME: 0 (Radiation-Protective Agents)

L74 ANSWER 17 OF 25 MEDLINE
ACCESSION NUMBER: 2002705389 MEDLINE
DOCUMENT NUMBER: 22354749 PubMed ID: 12466639
TITLE: Radioprotectants: current status and new directions.
AUTHOR: Grdina David J; Murley Jeffrey S; Kataoka Yasushi
CORPORATE SOURCE: Department of Radiation and Cellular Oncology, The University of Chicago, Chicago, Ill. 60637, USA.. dgrdina@rover.uchicago.edu
SOURCE: ONCOLOGY, (2002) 63 Suppl 2 2-10. Ref: 26
Journal code: 0135054. ISSN: 0030-2414.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200302
ENTRY DATE: Entered STN: 20021217
Last Updated on STN: 20030205
Entered Medline: 20030204

ABSTRACT:
The ability to prevent radiotherapy-induced toxicity without affecting antitumor efficacy has the potential to enhance the therapeutic benefit for cancer patients without increasing their risk of serious adverse effects. Among the currently available cytoprotective agents capable of protecting normal tissue against damage caused by either chemo- or radiotherapy, only amifostine has been shown in clinical trials to reduce radiation-induced toxicity. Most notably, it reduces the incidence of xerostomia, which is a clinically significant long-term toxicity arising in patients undergoing irradiation of head and neck cancers. In vitro studies with the active metabolite of amifostine (WR-1065) have shown it to prevent both radiation-induced cell death and radiation-induced mutagenesis. The potential of this agent to prevent secondary tumors, as well as other radiation-induced toxicities is now the focus of ongoing research. Among other novel approaches to radioprotection being explored are methods to increase levels of the antioxidant mitochondrial enzyme manganese superoxide dismutase (MnSOD). In addition, the use of epoetin alfa, alone or in combination with cytoprotectants (e.g., amifostine), to treat radiation-induced anemia is also being investigated. The objective of developing newer cytoprotective therapies is to improve the therapeutic ratio by reducing the acute and chronic toxicities associated with more intensive and more effective anticancer therapies.

CONTROLLED TERM: Check Tags: Human
Acrolein: AE, adverse effects
*Amifostine: PD, pharmacology
Antibiotics, Anthracycline: AE, adverse effects
Antineoplastic Agents, Alkylating: AE, adverse effects
Clinical Trials
Dose-Response Relationship, Drug
Dose-Response Relationship, Radiation
Heart: DE, drug effects
Mesna: PD, pharmacology

*Mutagenesis: DE, drug effects
Oxazines: AE, adverse effects
***Radiation-Protective Agents: PD, pharmacology**
*Radiotherapy: AE, adverse effects
Razoxane: PD, pharmacology

CAS REGISTRY NO.: 107-02-8 (Acrolein); **19767-45-4 (Mesna)**; 20537-88-6 (Amifostine); 21416-87-5 (Razoxane)

CHEMICAL NAME: 0 (Antibiotics, Anthracycline); 0 (Antineoplastic Agents, Alkylating); 0 (Oxazines); 0 (Radiation-Protective Agents)

L74 ANSWER 18 OF 25 MEDLINE

ACCESSION NUMBER: 97037417 MEDLINE
DOCUMENT NUMBER: 97037417 PubMed ID: 8883064
TITLE: Effectiveness of cysteamine and mesna in decreasing intracellular cystine content in cystinosis.
AUTHOR: Kernland K; Luthy C M; Wermuth B; Bianchetti M G
SOURCE: NEPHRON, (1996) 74 (1) 250.
Journal code: 0331777. ISSN: 0028-2766.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Letter
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199701
ENTRY DATE: Entered STN: 19970219
Last Updated on STN: 20000303
Entered Medline: 19970117

CONTROLLED TERM: Check Tags: Human
Cells, Cultured: CH, chemistry
Cells, Cultured: DE, drug effects
*Cysteamine: TU, therapeutic use
*Cystine: ME, metabolism
*Cystinosis: DT, drug therapy
Cystinosis: ME, metabolism
*Expectorants: TU, therapeutic use
*Mesna: TU, therapeutic use
***Radiation-Protective Agents: PD, pharmacology**

CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 56-89-3 (Cystine); 60-23-1 (Cysteamine)

CHEMICAL NAME: 0 (Expectorants); 0 (Radiation-Protective Agents)

L74 ANSWER 19 OF 25 MEDLINE

ACCESSION NUMBER: 87143339 MEDLINE
DOCUMENT NUMBER: 87143339 PubMed ID: 2881080
TITLE: Mesna and total body irradiation.
AUTHOR: Shaw I C; Searle A J
SOURCE: LANCET, (1987 Feb 28) 1 (8531) 516.
Journal code: 2985213R. ISSN: 0140-6736.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Letter
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 198704
ENTRY DATE: Entered STN: 19900303
Last Updated on STN: 19950206
Entered Medline: 19870401

CONTROLLED TERM: Check Tags: Animal
*Mercaptoethanol: AA, analogs & derivatives
*Mesna: TU, therapeutic use
Radiation Injuries, Experimental: PC, prevention & control
***Radiation-Protective Agents**
*Whole-Body Irradiation

CAS REGISTRY NO.: **19767-45-4 (Mesna)**; 60-24-2 (Mercaptoethanol)

CHEMICAL NAME: 0 (Radiation-Protective Agents)

L74 ANSWER 20 OF 25 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2001:549734 BIOSIS
DOCUMENT NUMBER: PREV200100549734
TITLE: Method of treating inflammatory bowel disorders.
AUTHOR(S): Hausheer, Frederick H. (1); Peddaiahgari, Seetharamulu
CORPORATE SOURCE: (1) 203 Kendall Pkwy., Boerne, TX, 78229 USA
PATENT INFORMATION: US 6291441 September 18, 2001
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Sep. 18, 2001) Vol. 1250, No. 3, pp. No Pagination. e-file.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English
ABSTRACT:
This invention relates to a method of treating patients suffering from the inflammatory bowel disorders. The method includes administering to a patient in need of treatment an effective amount of a thiol or reducible disulfide compound according to the formula set forth in the specification.
NAT. PATENT. CLASSIF.:514109000
INDEX TERMS: Major Concepts
Gastroenterology (Human Medicine, Medical Sciences); Methods and Techniques; Pharmacology
INDEX TERMS: Diseases
Crohn's Disease: digestive system disease, immune system disease; diverticulitis: digestive system disease; enteritis: digestive system disease, **radiation-induced**; enterocolitis: digestive system disease; inflammatory bowel disorders: digestive system disease; ulcerative colitis: digestive system disease; vasculitis: intestinal tract, vascular disease
INDEX TERMS: Chemicals & Biochemicals
dimesna: gastrointestinal - drug; mesna: gastrointestinal - drug
INDEX TERMS: Alternate Indexing
Diverticulitis (MeSH); Enteritis (MeSH); Enterocolitis (MeSH); Colitis, Ulcerative (MeSH); Vasculitis (MeSH)
REGISTRY NUMBER: **16208-51-8** (DIMESNA)
19767-45-4 (MESNA)

L74 ANSWER 21 OF 25 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:538014 BIOSIS
DOCUMENT NUMBER: PREV199900538014
TITLE: American Society of Clinical Oncology clinical practice guidelines for the use of chemotherapy and radiotherapy protectants.
AUTHOR(S): Hensley, Martee L. (1); Schuchter, Lynn M. (1); Lindley, Celeste (1); Meropol, Neal J. (1); Cohen, Gary I. (1); Broder, Gail (1); Gradishar, William J. (1); Green, Daniel M. (1); Langdon, Robert J., Jr. (1); Mitchell, R. Brian (1); Negrin, Robert (1); Szatrowski, Ted P. (1); Thigpen, J. Tate (1); Von Hoff, Daniel (1); Wasserman, Todd H. (1); Winer, Eric P. (1); Pfister, David G. (1)
CORPORATE SOURCE: (1) Health Services Research Department, American Society of Clinical Oncology, 225 Reinekers Lane, Suite 650, Alexandria, VA, 22314 USA
SOURCE: Journal of Clinical Oncology, (Oct., 1999) Vol. 17, No. 10, pp. 3333-3355.
ISSN: 0732-183X.
DOCUMENT TYPE: Standard
LANGUAGE: English
SUMMARY LANGUAGE: English

duplicate

ABSTRACT:
Purpose: Because toxicities associated with chemotherapy and radiotherapy can adversely affect short- and long-term patient quality of life, can limit the dose and duration of treatment, and may be life-threatening, specific agents designed to ameliorate or eliminate certain chemotherapy and radiotherapy toxicities have been developed. Variability in interpretation of the available data pertaining to the efficacy of the three United States Food and Drug Administration-approved agents that have potential chemotherapy- and radiotherapy-protectant activity-dexrazoxane, mesna, and amifostine-and questions about the role of these protectant agents in cancer care led to concern about the appropriate use of these agents. The American Society of Clinical Oncology sought to establish evidence-based, clinical practice guidelines for the use of dexrazoxane, mesna, and amifostine in patients who are not enrolled on clinical treatment trials. Methods: A multidisciplinary Expert Panel reviewed theclinical data regarding the activity of dexrazoxane, mesna, and amifostine. A computerized literature search was performed using MEDLINE. In addition to reports collected by individual Panel members, all articles published in the English-speaking literature from June 1997 through December 1998 were collected for review by the Panel chairpersons, and appropriate articles were distributed to the entire Panel for review. Guidelines for use, levels of evidence, and grades of recommendation were reviewed and approved by the Panel. Outcomes considered in evaluating the benefit of a chemotherapy- or radiotherapy-protectant agent included amelioration of short- and long-term chemotherapy- or radiotherapy-related toxicities, risk of tumor protection by the agent, toxicity of the protectant agent itself, quality of life, and economic impact. To the extent that these data were available, the Panel placed the greatest value on lesser toxicity that did not carry a concomitant risk of tumor protection. Results and Conclusion: Mesna: (1) Mesna, dosed as detailed in these guidelines, is recommended to decrease the incidence of standard-dose ifosfamide-associated urothelial toxicity. (2) There is insufficient evidence on which to base a guideline for the use of mesna to prevent urothelial toxicity with ifosfamide doses that exceed 2.5 g/m2/d. (3) Either mesna or forced saline diuresis is recommended to decrease the incidence of urothelial toxicity associated with high-dose cyclophosphamide use in the stem-cell transplantation setting. Dexrazoxane: (1) The use of dexrazoxane is not routinely recommended for patients with metastatic breast cancer who receive initial doxorubicin-based chemotherapy. (2) The use of dexrazoxane may be considered for patients with metastatic breast cancer who have received a cumulative dosage of 300 mg/m2 or greater of doxorubicin in the metastatic setting and who may benefit from continued doxorubicin-containing therapy. (3) The use of dexrazoxane in the adjuvant setting is not recommended outside of a clinical trial. (4) The use of dexrazoxane can be considered in adult patients who have received more than 300 mg/m2 of doxorubicin-based therapy for tumors other than breast cancer, although caution should be used in settings in which doxorubicin-based therapy has been shown to improve survival because of concerns of tumor protection by dexrazoxane. (5) There is insufficient evidence to make a guideline for the use of dexrazoxane in the treatment of pediatric malignancies, with epirubicin-based regimens, or with high-dose anthracycline-containing regimens. Similarly, there is insufficient evidence on which to base a guideline for the use of dexrazoxane in patients with cardiac risk factors or underlying cardiac disease. (6) Patients receiving dexrazoxane should continue to be monitored for cardiac toxicity. Amifostine: (1) Amifostine may be considered for the reduction of nephrotoxicity in patients receiving cisplatin-based chemotherapy. (2) Although amifostine may be considered for the reduction of neutropenia in patients receiving alkylating agents, chemotherapy dose reduction or growth factor use should be considered as an alternative to the use of amifostine. (3) Present data are insufficient to recommend the use of amifostine for protection against thrombocytopenia or the routine use of amifostine to prevent cisplatin-associated neurotoxicity or ototoxicity. Similarly, present data are insufficient to support the use of amifostine for the prevention of paclitaxel-associated neurotoxicity. (4) Use of amifostine may be considered to decrease the incidence of acute and late xerostomia in certain patients

undergoing fractionated radiation therapy in the head and neck region, although present data are insufficient to recommend the use of amifostine to prevent radiation therapy-associated mucositis. Details regarding dose and management of amifostine side effects, including hypotension, are included in the guidelines. Further research is warranted to further define the role of these chemotherapy- and radiotherapy-protectant agents in the care of cancer patients.

CONCEPT CODE: Pharmacology - General *22002
Radiation - General *06502
Biochemical Studies - General *10060
Neoplasms and Neoplastic Agents - General *24002
Public Health - General and Miscellaneous *37001
Pathology, General and Miscellaneous - Diagnostic *12504
Pathology, General and Miscellaneous - Therapy *12512
BIOSYSTEMATIC CODE: Hominidae 86215
INDEX TERMS: Major Concepts
Oncology (Human Medicine, Medical Sciences); Pharmacology; Radiology (Medical Sciences)
INDEX TERMS: Diseases
cancer: neoplastic disease
INDEX TERMS: Chemicals & Biochemicals
amifostine: **radioprotectorant** - drug;
dexrazoxane: **radioprotectorant** - drug; mesna: **radioprotectorant** - drug
INDEX TERMS: Alternate Indexing
Neoplasms (MeSH)
INDEX TERMS: Methods & Equipment
chemotherapy: quality of life effects, therapeutic method, toxicity; radiotherapy: quality of life effects, therapeutic method, toxicity
INDEX TERMS: Miscellaneous Descriptors
Clinical Practice Guidelines
COMPANY NAME: American Society of Clinical Oncology: company/organization
ORGANISM: Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGANISM: Organism Name
human (Hominidae): patient
ORGANISM: Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates
REGISTRY NUMBER: 20537-88-6 (AMIFOSTINE)
24584-09-6 (DEXRAZOXANE)
19767-45-4 (MESNA)

L74 ANSWER 22 OF 25 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1998:192339 BIOSIS
DOCUMENT NUMBER: PREV199800192339
TITLE: Radiochemotherapy with ifosfamide/mesna in patients with unresectable non small cell lung cancer (NSCLC): A phase II trial.
AUTHOR(S): Bischoff, H. G. (1); Latz, D.; Schraube, P.; Manegold, C. (1); Drings, P. (1); Wannenmacher, M.
CORPORATE SOURCE: (1) Thoraxklinik Rohrbach, Dep. Med. Oncol., Schwerpunkt Strahlentherapie, Heidelberg Germany
SOURCE: European Respiratory Journal Supplement, (Sept., 1997) Vol. 10, No. 25, pp. 196S.
Meeting Info.: Annual Congress of the European Respiratory Society Berlin, Germany September 20-24, 1997 European Respiratory Society
. ISSN: 0904-1850.
DOCUMENT TYPE: Conference
LANGUAGE: English
CONCEPT CODE: Neoplasms and Neoplastic Agents - General *24002

Radiation - General *06502
Biochemical Studies - General *10060
Digestive System - General; Methods *14001
Respiratory System - General; Methods *16001
Pharmacology - General *22002
Toxicology - General; Methods and Experimental *22501
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520

BIOSYSTEMATIC CODE: Hominidae 86215

INDEX TERMS: Major Concepts
Oncology (Human Medicine, Medical Sciences); Pharmacology

INDEX TERMS: Diseases
esophagitis: digestive system disease; leukopenia: blood and lymphatic disease; non small cell lung cancer: neoplastic disease, respiratory system disease; **radiation pneumonitis: injury,** respiratory system disease

INDEX TERMS: Chemicals & Biochemicals
ifosfamide: antineoplastic - drug; mesna: antineoplastic - drug

INDEX TERMS: Methods & Equipment
radiochemotherapy: efficacy, toxicity, therapeutic method

INDEX TERMS: Miscellaneous Descriptors
phase II clinical trial; side effects; tumor control; tumor regression; Meeting Abstract; Meeting Poster

ORGANISM: Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGANISM: Organism Name
human (Hominidae): patient

ORGANISM: Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

REGISTRY NUMBER: 3778-73-2 (IFOSFAMIDE)
19767-45-4 (MESNA)

L74 ANSWER 23 OF 25 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1993:302573 BIOSIS
DOCUMENT NUMBER: PREV199396020798
TITLE: Thiols as potential UV **radiation protectors**: An in vitro study.
AUTHOR(S): Van Den Broeke, L. T.; Beyersbergen Van Henegouwen, G. M. J.
CORPORATE SOURCE: Dep. Medicinal Chemistry, Center Bio-Pharmaceutical Sciences, Leiden University, P.O. Box 9502, 2300 RA Leiden Netherlands Antilles
SOURCE: Journal of Photochemistry and Photobiology B Biology, (1993) Vol. 17, No. 3, pp. 279-286.
ISSN: 1011-1344.
DOCUMENT TYPE: Article
LANGUAGE: English
ABSTRACT:

The following thiols were investigated with regard to their possible UV-***radiation*** **protective** properties: captopril, cysteamine, ergothioneine, mesna, mercaptopropionylglycine, N-acetylcysteine, and penicillamine. As a measure for protection, the inhibition of in vitro irreversible photobinding of the labeled phototoxic drugs chlorpromazine (CPZ) and 8-methoxypsoralen (8-MOP) to protein and DNA was used. Besides photobinding to biomacromolecules, the photodegradation of CPZ and the formation of promazine (PZH) and hydroxypromazine (PZOH) were measured as well. Because of the H-atom and electron donating capacity of the thiols, the ratio (PZOH)/(PZH) was expected to be decreased and the photodegradation of CPZ was expected to be higher in the presence of thiols. Maximum inhibition of CPZ photobinding ranged for the different thiols between 21-100% (DNA) and 17-87% (human serum

albumin). All thiols enhanced the photodegradation of CPZ (19-84%) and inhibited the ratio (PZOH)/(PZH) (90-97%). 8-MOP photobinding to human serum albumin was also clearly inhibited (75-96%), but remarkably less to DNA (2-41%). This study indicates that thiols are able to cope with a variety of reactive species. Scavenging of radicals, quenching of singlet molecular oxygen species and reaction with excited states seem to be essential mechanisms involved with this process.

CONCEPT CODE: Radiation - Radiation Effects and Protective Measures *06506
Biochemical Studies - General *10060
Biochemical Studies - Nucleic Acids, Purines and Pyrimidines *10062
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Biophysics - Molecular Properties and Macromolecules *10506
External Effects - Light and Darkness *10604
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies *15002
Integumentary System - Pathology *18506
Pharmacology - Integumentary System, Dental and Oral Biology *22020
In Vitro Studies, Cellular and Subcellular *32600

BIOSYSTEMATIC CODE: Hominidae *86215

INDEX TERMS: Major Concepts
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Dermatology (Human Medicine, Medical Sciences); Pharmacology; Physiology; Radiation Biology

INDEX TERMS: Chemicals & Biochemicals
CAPTOPRIL; CYSTEAMINE; ERGOTHIONEINE; MESNA; MERCAPTOPROPIONYLGLYCINE; N-ACETYLCYSTEINE; PENICILLAMINE; CHLORPROMAZINE; 8-METHOXYPSORALEN

INDEX TERMS: Miscellaneous Descriptors
CAPTOPRIL; CHLORPROMAZINE; CYSTEAMINE; DNA; ERGOTHIONEINE; MERCAPTOPROPIONYLGLYCINE; MESNA; N=ACETYLCYSTEINE; PENICILLAMINE; PHOTOTOXIC DRUGS; POTENTIAL **RADIOPROTECTORANT**; PROTEIN; SERUM ALBUMIN; 8=METHOXYPSORALEN

ORGANISM: Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGANISM: Organism Name
human (Hominidae)

ORGANISM: Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates

REGISTRY NUMBER: 62571-86-2 (CAPTOPRIL)
60-23-1 (CYSTEAMINE)
497-30-3 (ERGOTHIONEINE)
19767-45-4 (MESNA)
1953-02-2 (MERCAPTOPROPIONYLGLYCINE)
616-91-1 (N-ACETYLCYSTEINE)
52-67-5 (PENICILLAMINE)
50-53-3 (CHLORPROMAZINE)
298-81-7 (8-METHOXYPSORALEN)

L74 ANSWER 24 OF 25 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1990:393819 BIOSIS
DOCUMENT NUMBER: BR39:64780
TITLE: THIO COMPOUNDS AS POSSIBLE PHOTOPROTECTIVE AGENTS.
AUTHOR(S): VAN DEN BROEKE L T; BEIJERSBERGEN VAN HENEGOUWEN G M J
CORPORATE SOURCE: DEP. MED. CHEM., CENT. BIO-PHARMACEUTICAL SCI., LEIDEN UNIV., P.O. BOX 9502, 2300 RA LEIDEN, NETH.

SOURCE: 18TH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR PHOTOBIOLOGY, VANCOUVER, BRITISH COLUMBIA, CANADA, JUNE 16-20, 1990. PHOTOCHEM PHOTOBIOL, (1990) 51 (SUPPL), 77S.
CODEN: PHCBAP. ISSN: 0031-8655.
DOCUMENT TYPE: Conference
FILE SEGMENT: BR; OLD
LANGUAGE: English
CONCEPT CODE: General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520
Radiation - Radiation and Isotope Techniques *06504
Radiation - Radiation Effects and Protective Measures *06506
Biochemical Studies - General 10060
Biochemical Studies - Nucleic Acids, Purines and Pyrimidines 10062
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
External Effects - Light and Darkness *10604
Pathology, General and Miscellaneous - Therapy 12512
Pharmacology - Drug Metabolism; Metabolic Stimulators *22003
Toxicology - Pharmacological Toxicology *22504
INDEX TERMS: Miscellaneous Descriptors
ABSTRACT CHLORPROMAZINE 8 METHOXYPSORALEN PHOTOSENSITIZER RADIOSENSITIZER-DRUG CAPTOPRIL CYSTEAMINE D PENICILLAMINE MERCAPTOPROPIONYLGLYCINE MESNA N ACETYLCYSTEINE **RADIOPROTECTORANT**-DRUG DNA PROTEIN UV-A
REGISTRY NUMBER: 50-53-3 (CHLORPROMAZINE)
52-67-5 (D PENICILLAMINE)
60-23-1 (CYSTEAMINE)
298-81-7 (8 METHOXYPSORALEN)
616-91-1 (N ACETYLCYSTEINE)
1953-02-2 (MERCAPTOPROPIONYLGLYCINE)
19767-45-4 (MESNA)
62571-86-2 (CAPTOPRIL)

L74 ANSWER 25 OF 25 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1988:99318 BIOSIS
DOCUMENT NUMBER: BR34:45660
TITLE: MESNA.
AUTHOR(S): SHAW I C; GRAHAM M I
CORPORATE SOURCE: TOXICOLOGY SECTION, CENTRAL VET. LAB., WEYBRIDGE, SURREY.
SOURCE: Cancer Treat. Rev., (1987) 14 (2), 67-86.
CODEN: CTREDJ. ISSN: 0305-7372.
FILE SEGMENT: BR; OLD
LANGUAGE: English
CONCEPT CODE: Radiation - Radiation and Isotope Techniques *06504
Radiation - Radiation Effects and Protective Measures *06506
Biochemical Studies - General 10060
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease 12508
Pathology, General and Miscellaneous - Therapy 12512
Cardiovascular System - Blood Vessel Pathology *14508
Urinary System and External Secretions - Pathology *15506
Pharmacology - Clinical Pharmacology *22005
Pharmacology - Cardiovascular System *22010
Pharmacology - Urinary System *22032
Toxicology - Pharmacological Toxicology *22504
Toxicology - Antidotes and Preventative Toxicology *22505
Neoplasms and Neoplastic Agents - Therapeutic Agents; Therapy *24008
BIOSYSTEMATIC CODE: Hominidae 86215

INDEX TERMS: Miscellaneous Descriptors
REVIEW HUMAN CYCLOPHOSPHAMIDE IFOSFAMIDE OXAZAPHOSPHORINE
ANTINEOPLASTIC-DRUG TOXICITY HEMORRHAGIC CYSTITIS 2
MERCAPTOETHANESULFONATE ANTIDOTE-DRUG
RADIOPROTECTORANT-DRUG
REGISTRY NUMBER: 50-18-0 (CYCLOPHOSPHAMIDE)
3778-73-2 (IFOSFAMIDE)
19767-45-4 (MESNA)

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DICTIONARY FILE UPDATES: 30 MAR 2003 HIGHEST RN 500991-80-0

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PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> s 19767-45-4 or 16208-51-8 or 45127-11-5

1 19767-45-4
(19767-45-4/RN)
1 16208-51-8
(16208-51-8/RN)
1 45127-11-5
(45127-11-5/RN)
L75 3 19767-45-4 OR 16208-51-8 OR 45127-11-5

=> d ide 1-3; fil hom

L75 ANSWER 1 OF 3 REGISTRY COPYRIGHT 2003 ACS
RN **45127-11-5** REGISTRY
CN Ethanesulfonic acid, 2,2'-dithiobis- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN .omega.,.omega.'-Ethanedisulfidedisulfonic acid
CN 2,2'-Dithiodi-1-ethanesulfonic acid
CN 2,2'-Dithiodiethanesulfonic acid
CN Bis(2-sulfoethyl)disulfide
CN Coenzyme M
FS 3D CONCORD
MF C4 H10 O6 S4
CI COM
LC STN Files: AGRICOLA, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT,
CAPLUS, DRUGPAT, DRUGUPDATES, EMBASE, MEDLINE, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)

$HO_3S-CH_2-CH_2-S-S-CH_2-CH_2-SO_3H$

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

111 REFERENCES IN FILE CA (1962 TO DATE)
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
111 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L75 ANSWER 2 OF 3 REGISTRY COPYRIGHT 2003 ACS
RN **19767-45-4** REGISTRY
CN Ethanesulfonic acid, 2-mercapto-, monosodium salt (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2-Mercapto-1-ethanesulfonic acid monosodium salt
CN 2-Mercaptoethanesulfonic acid monosodium salt
CN 2-Mercaptoethanesulfonic acid sodium salt
CN D 7093
CN Mesna
CN Mesnex
CN Mesnum
CN Mistabron
CN Mistabronco
CN Mitexan
CN Mucofluid
CN Prehepon
CN Sodium 2-mercaptoethanesulfonate
CN UCB 3983
CN Uromitexan
DR 122504-78-3
MF C2 H6 O3 S2 . Na
CI COM
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PHARMASEARCH, PIRA, PROMT, RTECS*, SYNTHLINE, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (3375-50-6)

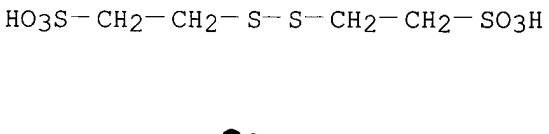
$HS-CH_2-CH_2-SO_3H$

● Na

401 REFERENCES IN FILE CA (1962 TO DATE)
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
402 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L75 ANSWER 3 OF 3 REGISTRY COPYRIGHT 2003 ACS
RN **16208-51-8** REGISTRY
CN Ethanesulfonic acid, 2,2'-dithiobis-, disodium salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Ethanesulfonic acid, 2,2'-dithiodi-, disodium salt (6CI, 8CI)
OTHER NAMES:
CN 2,2'-Dithiodi-1-ethanesulfonic acid disodium salt

CN Bis(2-sulfoethyl)disulfide disodium salt
CN BNP 7787
CN Dimesna
CN Disodium 2,2'-dithiobis(ethanesulfonate)
CN Disodium 2,2'-dithiodiethanesulfonate
MF C4 H10 O6 S4 . 2 Na
LC STN Files: ADISINSIGHT, ADISNEWS, ANABSTR, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMLIST, DDFU, DRUGNL, DRUGPAT, DRUGU, DRUGUPDATES, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, PHAR, PROMT, SYNTHLINE, TOXCENTER, USAN, USPATFULL
Other Sources: EINECS**, NDSL**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (45127-11-5)



72 REFERENCES IN FILE CA (1962 TO DATE)
72 REFERENCES IN FILE CAPLUS (1962 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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